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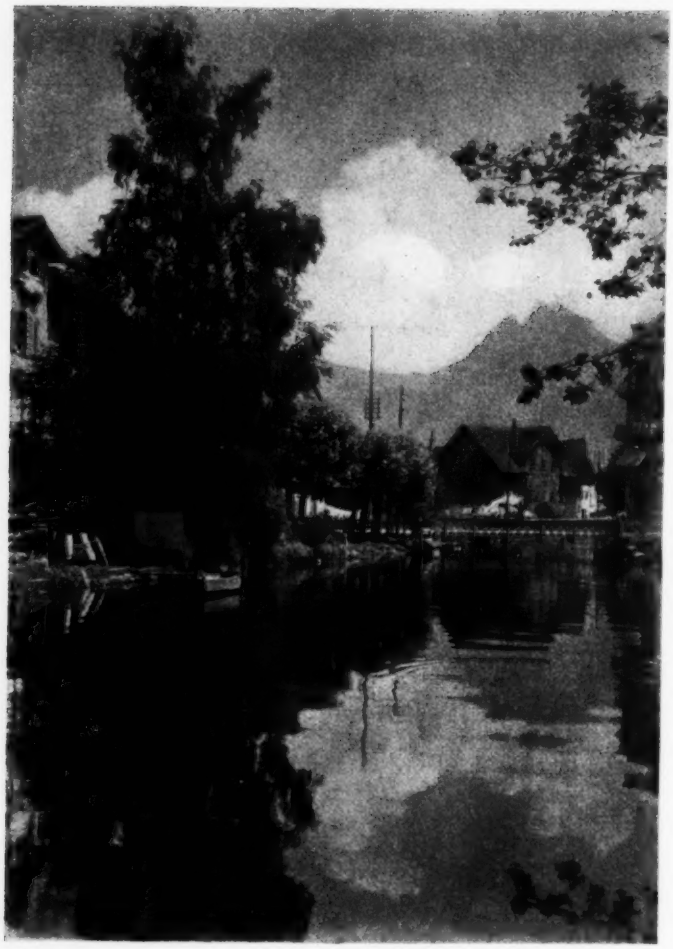

THE RIVER AT BRUNNEN
G. R. BALLANCE

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Lo, the White Indian

WINN W. DAVIDSON

THE intention of this article is not only to show how the Indian may be photographed paler than the pale-face, but incidentally to explain how the pale-face can be prevented from appearing darker than the copper-skinned Indian.

How well do I remember my first attempts at portraiture. The white collar of the victim was the only thing that acted according to schedule when the developer was poured on the plate; but I was sure that the face had not been left out of the picture, so I kept on developing—and developing—and, of course, the longer I developed, the whiter the collar became in the final print—and the blacker the face. The thing was hopelessly underexposed, although I had given just as much exposure as I did to other pictures I had made. That was the difficulty, exactly. I had failed to distinguish that they were all fairly distant views; and even had I noticed this difference, the chances are that I would have fallen into the mistaken logic of a number of amateurs who have discussed the point with me since that time.

They reason that the intensity of the light varies inversely as the square of the distance; that if an object is ten times as far away, it will transmit to the lens only one one-hundredth as much light as a similar object at unit distance. Correct, as far as it goes, except that distant objects tend to take on a blue color that affects the photographic plate more strongly than less actinic colors. But when they say that the object at unit-distance should require only one one-hundredth as much exposure as the object ten times as far away, they are very decidedly in the wrong.

The trouble is that as the object increases its distance from the lens, it no longer fills the whole picture-space. It becomes finally only a small part of a landscape-panorama. That is, in an open landscape we have a hundred square miles of light shining into the lens as against twenty-five or fifty square feet in the average portrait. If we were to use a telephoto-lens so as to keep the image the same size, while the distance to the object was increased, we should find the exposure increasing directly as the square of the distance or as the square of the magnification which would be a measure of the distance.

Luckily for the uniformity of exposures, in general, the area that is throwing light into the lens increases, while its intensity decreases, in direct proportion to the square of the distance in both cases. So that, outside of the greater amount of actinic blue light in distant views, we should expect virtual uniformity in exposures at all distances.

But there is another important factor to consider. In order to focus a portrait, the camera must be extended further than for more distant objects. With a 7-inch lens I find that the distance on the focusing-scale between the 100-foot mark and the 7-foot mark amounts to 9/16 of an inch. That is, when focused on an object 7 feet away, a 7-inch lens really has a focal length of 7 9/16 inches. The diameter of the stop remaining the same, it is a smaller proportion of the focal length, giving a smaller f-value. In effect, it is a smaller stop and requires a longer exposure for a successful result.

With the lens mentioned, the f-values of the stops are as 1/7 to 1/7.56 or squaring these ratios we find the relative exposures are as 49 to 56.2, or the near exposure is 1 1/7 times as long as before.

Distant views in a hazy atmosphere are noticeably lacking in contrast, and a short exposure tends to give them more contrast. With near objects, the shadows are not veiled by any blue haze; this gives greater contrast which can be overcome by longer exposure. Also, a softer print is generally desired in portrait-work than in landscape-work, and this adds still more to the duration and importance of the exposure.

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PIETRO WINN W. DAVIDSON

In addition to this, we must remember that the human skin is far from being white—shades of tan and pink are generally in evidence, and these colors are relatively slow in acting on even an orthochromatic plate. Due to this cause alone, I have known of extreme cases—where yellowish red predominated—that an exposure nine times normal was not excessive. This, despite the fact that the exposure had already been calculated for an 8-times ray-filter. The final exposure was thus seventy-two times that which might have been given ordinarily. The net result of all these factors is the well-known rule that portraits require double the exposure.

If the subject is extremely tanned after a summer-outing at the beach, or has a beautiful olive complexion, or an unnaturally red one, you are safe in counting that the face will be too dark unless you use a ray-filter. In any event, if the faces are too dark in your prints, give them a longer exposure. The rest of the negative will blacken over "too rapidly"; but do not snatch it out of the developer on that account. Develop it just as fully as if it had been underexposed, and you will get a good, plucky negative that can be printed on any of the professional portrait-papers that are ordinarily too soft for amateur-negatives. And the skin will have that luminous professional quality that the amateur fondly believes is due to retouching.

When my first Indian subject surrendered himself into my hands, I realized that the element of color was undoubtedly present and decided that, since I was using a ray-filter, I might just as well use a strong one. So I prepared a twenty-per-cent solution of bichromate of potash and filled my liquid cell-filter with it.

The chemist and meteorologist can probably figure out my exact location on the map from the data given. At any rate, when I got back to civilization, my filter was half full of bichromate crystals due to the cooling of the solution; and if I had ventured further out into the desert, the water would in all likelihood have evaporated faster than I could have filled the cell.

Probably, a glass or gelatine-filter of a deep orange color would have been more satisfactory for the purpose; for, on account of the rapid evaporation, I had to fill the filter as full as it would hold and by the time I was ready to use it countless small bubbles always formed on the inside of the glass-faces. It was an endless task to collect these into one big bubble, as each little bubble had to be struck by the big one before it would budge. By leaving a small bubble to attract the other bubbles, when I filled the filter, I afterward reduced this trouble to some extent. The bubbles were probably due to air being forced out of the solution by the heat. I thought, at first, that they were caused by the breaking up of a small bubble which I might have left in the filter accidentally when I filled it.

For this work I used Cramer Portrait-Isonon or Hammer Non-Halation Ortho-Plates; the latter are double-coated. Exposures in brilliant sunlight ranged from one to three seconds with the lens at F/7 or F/8 (U. S. 3 or 4). And even with this exposure, parts of the negative showed a close approximation to clear glass, though the highlights were quite dense. These plates are very rich in silver and they have a tendency to yield plucky negatives even with considerable overexposure. My preference is for a single-coated plate, as the double-coated are inclined to give more contrast than is expected and are slow to dry; this latter quality increases the danger of frilling or melting in a hot climate.

At that time I did not make use of panchro-

CHAPARAJOS WINN W. DAVIDSON

matic plates on account of the lack of electricity for my green safelight. Theoretically at least, a red-sensitive plate should be ideal for photographing the "red" man, but there are other points that might discourage their use.

For instance, the light leather on the saddles and also the sunlit parts on a bay horse always photographed too light and had to be dodged in the printing for perfect results. And, at the same time, the shadows on a bay horse were generally too black. With a panchromatic plate the shadows might have been lighter but the highlights might have become entirely white. The fingernails are also much whiter than the hand, probably due as much to their greater reflecting-power as to the color.

It will be noticed in these pictures that the sky is not dark as would be expected with such a degree of overcorrection. This is probably due to the extremely long exposure. Also, the exposure was sufficiently long to give full shadow-detail in the black "chaps." This is not shown by the accompanying photographs as well as it might be because it gave an odd effect of lightness in the shadows; so I allowed the chaparajos to go black.

When I ventured to admire the black "chaps," their owner depreciatingly explained that he was going to change them for a red pair. Another problem for the panchromatic plate; they might photograph white! With an orthochromatic plate, however, they would probably reproduce as black as desired.

It may be objected that to photograph the Indian as white is to tell a lie; but at the worst it is a white lie and an exceedingly profitable

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one. As a rule, at the fiestas and on other occasions, I could not induce an Indian to stand for his picture; but the Sunday following my delivery of my prints of "Pietro," a cavalcade of nine of them galloped in from the hills in search of the photographer.

I was not at home at the time and later was made the recipient of considerable banter from my friends. The last incident of the kind had followed the return of one of our noble race from the State's free boarding-school. His swarthy friends gathered to celebrate the event and expected him to furnish the "booze"; but no more of that for him. Regretting this lapse from his former care-free ways, they lassoed him around the neck and left him suspended from an oak-limb until he was rescued by a passer-by.

Secure in the belief that my photograph was not really as bad as all that, I waited for the cavalcade the following Sunday and photographed them seriatim in the same brand-new pair of "chaps." It was, indeed, a proud moment for me when Pietro pointed me out to them with a beatific smile as if he were discovering the eighth wonder of the world.

Incidentally, I missed what would have been the most profitable group-negative I ever made by inadvertently dropping the word "ya." Now, "ya" is German for "yes," and is tabooed, of course; but it is also Russian for "I" and is a very common word—of course. I always have to stop and get my bearings to be sure which language I am thinking in.

In the midst of an exciting evolution in trick and fancy riding, I was trying to get them all on the plate at once. I hear the word "ya" bandied in the crowd. One of them asks the other pleasantly, "Does he want us to stay this way any longer?" Not to be outdone in pleasantness, I smile an exultant "ya" at him as I see that everything is ready for the plateholder to go in; but judge my amazement when the group melted like snow on the desert! Then I remembered that in Spanish "ya" means "already"; not such a common word as in the other languages. I never got that group together again.

They cared nothing about the price, but ordered the best I had of everything; my *de luxe* mounts with the silk tassels on them that never before sold in quantity disappeared like hot cakes; and there were repeat orders for a year or two—as long as I stayed in that part of the country.

The suggestion has been made since that one might dress a negro in a white suit and blacken his collar and shirt-front with shoe-polish; then by using a piece of bromide paper for a plate it would give a direct positive of a white negro—that is, the paper-negative would pass for a positive. But I will leave that for some of our Southern friends to experiment with.

A Good Word for the Film-Pack

E. L. C. MORSE

BEFORE saying a word on the eternal controversy as to the relative merits of plates, roll-films and film-packs, let me say that I am not interested financially in the slightest degree in any photographic product of any kind. And I don't mind admitting frankly that personally I prefer plates to either roll-films or film-packs. But at present, I am trying to strike a balance fairly between the merits of roll-films and film-packs only.

As to portability and economy of space, there is little to choose between the two. One can carry in the pocket without inconvenience enough emulsion surfaces to satisfy the most inveterate snap-shooter. However, roll-films often come in sixes, but film-packs come in dozens. For the person who is impatient to develop the whole lot, the six-roll scores, although in a darkroom a single film may be taken out of the film-pack and be developed by itself. But people who use films rarely have the skill or patience or conveniences to do this.

As regards the shape and bulk of the camera designed for the use of roll-film and that intended for film-packs, the roll-film camera is longer and narrower and the film-pack camera is thicker and more box-like. In a container with attached strap over the shoulder the longer and narrower article seems to conform more to the shape of the human body, is less obtrusive and easier to carry. Using the film-pack camera one carries a film-pack adapter in a side pocket and inserts it in the camera when needed. However, this fact might militate against its use with the fair sex who as a rule are not blessed with so many pockets as we men are. Speaking in a general way, I should say that for most people, that is,

"IN THE TRENCHES"
GEORGE C. BLAKESLEE

for the general, every-day, summer-vacation snap-shooter, the roll-film camera has a slight advantage in this respect over the film-pack.

Let us now consider the manipulation of the camera: the loading and unloading, the preparation for exposure and the protection of the exposed emulsion. With the roll-film you open the back of the camera, take out the empty spool, change it to the other end of the camera, and insert the fresh spool in the empty space thus made. Then you carefully unwrap the roll, attach the end in the slot of the top spool, turn the knob two or three times, close the back of the camera, wind carefully until the proper signal warns you to stop. You then make your picture and wind until the next signal is visible—and so on until the end of the roll. Should you over-shoot the mark, that emulsion surface is unavailable. Should you accidentally let your shutter snap, that surface is ruined. You now proceed to wind up the roll, open the back again, take out the roll, seal it up and put it away. Then you proceed as before, shifting spools, threading and winding.

Let us now consider the manipulation of the film-pack. You put the pack in the adapter, insert the adapter in the back of the camera, pull off the blind-tab, pull out the slide, make your picture and push back the slide of the adapter. You need fear no accident from accidental snapping of the shutter. It is impossible to wind too far or not far enough because there is no winding to be done. Or, if you want to change to an orthochromatic or panchromatic plate, you simply take the closed adapter out of the camera; no harm is done to the exposed surface of the film-pack. This is impossible with roll-films. Assuming now that the last surface of the film-pack is used and that you wish to continue with the next pack, what is the *modus operandi*? Simplicity itself! You simply take the film-pack out—shake it out in broad daylight if you wish—and place another film-pack in its place. No changing of spools, no threading, no unwinding—just about as simple an operation as turning over a leaf in a book. In this respect the film-pack scores heavily over the roll-film. Is this point overemphasized?

Last summer, I felt pretty well fatigued after my year's labors, and I bade farewell to the family, jumped on the train for Davenport, Ia., where I engaged passage on a Mississippi river-boat to Saint Paul and return. It was a slow old tub of a stern-wheeler with an old-fashioned pilot and a crew of negro-stevedores. Nobody was in a hurry, the accommodations were primitive but wholesome, and the passengers congenial. At first I had thought of leaving my camera at home, but repenting at the last moment, I slung over my shoulder daughter's 2¼ x 3¼ roll-film camera, leaving at home my more elaborate apparatus.

Of course, I attempted a picture now and then. "Once a photographer, always a photographer," if the materials are at hand. And, in that trip, the usual comradeship sprang up between camera-users—in this case between a "school marm" on vacation and myself. She had a film-pack camera, and I had a roll-film camera. I never was a strong admirer of roll-films, but after that trip I made up my mind that henceforth I would never use roll-film if anything else could be had.

Good subjects on the Mississippi river are rare—genre-subjects—I mean—outside of the crew. Picturesque—generally unpicturesque—villages abound and occasionally an interesting natural scene, but river-traffic is deplorably lacking. However, one bright morning we saw coming down stream a sure-enough Mississippi passenger-steamer, old-fashioned stern wheeler with swinging gang-plank and twin smoke-stacks. Miss Priscilla and I brightened up. We obtained a good snapshot head-on, side-view and rear, showing the typical wheel lazily churning the surface of the "Father of Waters."

It so happened that we were both of us at the end of our photographic rope—my film and her film-pack. Just that moment there hove in sight the one really worthwhile picture of the week—a motor-launch, with the family and dog, merrily speeding downstream. Behind the launch, standing on a board attached to the launch, was a girl of about twelve years of age with her hair flying in the breeze, the picture of health and youth. She stood at the farther end of the board which was under water—a striking subject for a snap-shot. Naturally, we both hurried to catch a scene that rarely blesses the vision of the camerist. Miss Priscilla simply drew out her adapter, opened the slide, shook out the pack on her lap, inserted a fresh pack, shoved the adapter back, pulled the tab—*and made two beautiful pictures*. And I? Why continue the harrowing and mortifying tale? By the time I had wound up—opened the back—sealed up—changed spools—threaded anew—replaced the back—wound up to the proper place—the exquisite vision had gone down the river, glimmering into the limbo of missed opportunities and regrets unforgettable. "Never again!" said I.

Although the average film-user generally has some one else print and develop his films, it may not be amiss to consider for a moment the development of roll-films and film-packs. Undoubtedly, the machine-development of film-

HAWAIIAN LANDSCAPE — HERBERT B. TURNER

packs is simpler and easier than that of roll-films, provided one has a darkroom to load the machine—this may be simply a darkened room. Or, one may develop in daylight, using the rather complicated box with cranks and apron. On the other hand, the pack-system lends itself to special treatment for known under- or over-exposures. By means of a convenient memorandum made at the time, one can tell which film to select from the pack for soft or hard contrasts—provided always that the amateur has progressed beyond the snapshot, machine-development stage of his photographic career. Any stationery-store will furnish cheap and satisfactory spring-clips which can be used to hold film-packs. Thus handled, they may be developed, washed, fixed and dried about as easily as plates—a clip to each film.

Summing up the advantages and disadvantages of the two systems—film-packs and roll-films—it may be said that the roll-film camera has a slight—very slight—advantage in economy of space and portability. With machine-development the film-pack requires a darkened room or changing-bag, but the operation is much simpler. With hand-development desired results are more easily attained with film-packs. In the matter of changing—speed, ease and simplicity of manipulation—the film-pack is easily the superior. The film-pack camera has the not easily overestimated advantage of being usable for either packs or plates at the pleasure or convenience of the operator. For young ladies—and lady-like men—who don't mind spending ten or twenty-five dollars for a combination of pretty toy and camera, the slimness and compactness of the roll-film camera is the deciding factor. For serious and experienced camerists the combined film-pack and plate-camera offers the greater advantages.

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Experiences with the Gum-Bichromate Process

WILLIAM F. GINGRICH

DURING one of the periodic epidemics of photographic fervor, several years ago, the writer contracted a malignant form of gum-bichromate fever. Craving relief and satisfaction, he searched the archives for knowledge of the process and, as a result, arrived at three conclusions—first, he became positively convinced of the artistic possibilities of gum-bichromate; secondly, he was assured of, and impressed with, the ease and certainty with which it was said that even the novice could get results, and, thirdly, he obtained a rather confused notion of the methods followed by some six or eight self-styled "successful gum-workers."

THE AUTHOR

WILLIAM F. GINGRICH

To his stock of enthusiasm and courage, he added a more or less appropriate collection of bichromates, gums, colors, brushes and paper, and at once set about to establish his reputation as a successful gum-worker. Then followed the usual and not altogether encouraging experiences so well-known to the gum-bichromate enthusiast. He passed through the flaking-off stage, the experimental stage and the partial-success stage. Failure after failure was his only reward; but his persistence was indomitable. He tried everyone's method, singly and in almost every possible combination; he experimented with methods all his own. For three months he tried to make a successful print from a single negative, and then succeeded. That print has given him more genuine pleasure and satisfaction than any other he ever made, for it marked the end of failure and the beginning of success. The writer is a modest man, but admits meekly that he now counts himself one of the successful gum-workers, and that he can obtain results which are not only pleasing to himself, but which elicit praise from his friends, some of whom claim a degree of artistic taste.

During the time the writer was wrestling with formulas and instructions, which were not always definitely stated or easily understood, he made a solemn vow that if he ever mastered the gum-bichromate process, he would set forth a method so clearly that any beginner might follow it with a reasonable assurance of success, making it unnecessary for him to struggle through months of experimentation, discouragement and, possibly, final disappointment. Like other successful workers, the writer is eager to shout his message from the housetop, and offers the following instructions in the hope that they may encourage others to achieve the beautiful results possible only with this extremely interesting process. Before giving definite information how to proceed, I beg to offer a few general suggestions:

1. Do not expect to get good results with this or any other method unless you follow instructions precisely.

2. No procedure is herein explained which has not been tried successfully. Obviously, in any process, if all conditions are repeated exactly, the results will surely be the same.

3. Do not invest heavily in an elaborate supply of material. The requirements are few and inexpensive.

4. (Confidential.) If it is necessary for you

to do your gum-work in the kitchen, and the wife is inclined to be unreasonable or unsympathetic, let the gum-bichromate process alone.

MATERIALS NEEDED

½ oz. gum arabic (tears).
½ oz. potassium bichromate.
1 oz. (more or less) household ammonia.
1 lb. (more or less) powdered alum.
1 tube lamp-black (ground in water).
1 varnish-brush.
1 badger blender.
Whatmans's H.P. or Strathmore watercolor-paper.
Tray, drawing-board, pushpins, cheese-cloth.

Other watercolors may be added to the above list after the beginner has become somewhat proficient in the work.

STOCK-SOLUTIONS

The Gum-Solution.—Place the gum-arabic in a piece of cheese-cloth and suspend it in three ounces of cold water placed in a wide-mouthed bottle or jar. The gum should dissolve wholly in twenty-four hours or so, and should be the consistency of thick mucilage. However, if all of the gum has not filtered through the cheese-cloth in that time, gentle pressure between the thumb and fingers should bring about the desired result. To keep the solution from turning sour, add three or four drops of household ammonia. The bottle should then be corked to prevent evaporation.

The Bichromate-Solution.—Place the potassium-bichromate in an amber-colored bottle or a bottle wrapped in opaque paper and add four ounces of warm water. This will form a saturated solution, and some of the crystals will remain undissolved. More water may be added as the solution is used provided it be kept at saturation.

Into a teacup pour two teaspoonfuls of the gum-solution. Squeeze out of the tube one inch of lamp-black. Using the teaspoon as a pestle, grind the color into the gum until the mass is thoroughly incorporated and quite smooth. Add three teaspoonfuls of the bichromate solution and stir well. Next, rinse the varnish-brush in clear water and switch it as nearly dry as you can. Then thoroughly work up the coating-mixture with the brush, taking care to leave no unmixed color on the sides or bottom of the cup. In order to protect your drawing-board from color, cover it with a piece of newspaper without creases. Rest the board at an angle of about forty-five degrees, and pin to it a piece of the drawing-paper about 10 x 12 inches in size, fastening a pushpin firmly at each corner. Pull down the shades in order to subdue the light, and give

BETTY — WILLIAM F. GINGRICH

the mixture a final stirring with the brush. Then with a fairly full brush, quickly but skilfully lay on the mixture, first with horizontal then with vertical brush-strokes. Before the coating sets, take up the blender—without color, of course—and go over the paper again, first horizontally then vertically, holding the brush perpendicular to the paper and barely letting the ends of the hair touch the coating. As soon as the surface is made as smooth as possible, hang up the paper in a dark closet to dry—this should require not more than twenty or thirty minutes. As soon as you have finished coating, wash the brushes thoroughly in water.

Much of the success with gum-work depends upon a suitable negative from which to make the print, and the proper exposure in printing. Choose a negative which inclines a little toward thinness but which has good detail in the shadows. Almost any negative suitable for printing with printing-out paper will prove satisfactory with the gum-bichromate process.

As with all papers, the exposure in printing will vary with the density of the negative, the strength of the light and the thickness of the emulsion; but a few trials will determine what exposure to give. Using narrow strips of the

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THE SPIRE WILLIAM F. GINGRICH

sensitized paper, make three tests, exposing in direct sunlight for one, two and four minutes, respectively. Do not be dismayed when you remove the strips from the printing-frame if there is but a slight visible image, but put the strips face down in a tray of clear water and let them remain for fifteen minutes, then examine. If your negative is of average density, you will probably find that the coating upon the strip which received the shortest exposure has soaked almost or entirely off, indicating that the exposure has been too short. On the strip which has received the longest exposure, the coating has perhaps hardly begun to soften, indicating that the exposure has been too long. If the two-minute strip has received about the correct exposure, the emulsion will be softened by the water, and the image will be strongly visible; although twenty or thirty minutes more soaking will probably be required to develop the print fully. Having determined the proper exposure, you may trim a piece of the sensitized paper to the size of your negative and make your print.

Development may proceed automatically, as in the case of the test-strips; most workers, however, prefer to put character and individuality into their work by local manipulation. Indeed, the pictorial quality so much admired in gum-prints depends very largely upon the success with which this local treatment is carried on.

In order to describe the process, let us suppose that you are making a print from a landscape-negative, and decide that its pictorial quality could be much improved by making the roadway a little lighter in tone, and by making the sky lighter near the horizon. Take the partially developed print carefully from the tray and place it face up on a sheet of glass somewhat larger than the print. By means of a quarter-inch rubber-tube attached to the faucet, let a single drop of water fall upon the part to be made lighter. If no effect is produced, increase the flow of water until the desired result is obtained. Sometimes, it is necessary to use a spray, or even to direct a steady stream on some parts of the print in order to wash away a sufficient amount of color. Sometimes skilful handling with a small water-color-brush, well filled with water, may have to be used. If the paper has been printed too long, increasing the temperature of the water may result in saving the print, although if much over-exposed it is hopeless. It must be borne in mind that a wet print which has been exposed properly, is extremely delicate; one drop of water in the wrong place or one careless or injudicious stroke with the brush may ruin the picture.

When development is finally completed, rinse the print carefully in clear water and hang up by the corners to dry. In order to remove all trace of bichromate-stain, place the dry print in the following clearing-bath: Powdered alum, 1 oz.; Water, 20 oz.

After the print has remained in the clearing-bath ten or fifteen minutes, it may be rinsed thoroughly in clear water and hung up to dry, when it will be ready for trimming and mounting.

No reference has been made in this article to multi-printing and multi-color work. Before such elaboration should be attempted, it is absolutely necessary that the beginner master the fundamental steps of the process. Unless he does that, his more ambitious efforts will result in nothing but failure and disappointment.

The "Wet" and the "Dry"

(Fourth of the "Professor Pyro" Talks)

MICHAEL GROSS

ALTHOUGH, as I mentioned in my last talk, Daguerre gave his process to the French Government and then patented it in England," began Professor Pyro, at the fourth meeting of the "Evolution-of-Photography" class, "the daguerreotype proved more popular in America than in France or England. In fact, very few specimens of this process can be found in England now. In the same year that Daguerre made known his method, Morse established a pretentious photographic studio on Broadway, New York, to which he gave the grandiloquent title of 'The Palace of the Sun.' He immediately started to flood the local newspapers with advertising-matter. In these, he described, not the process itself, but the joy of being able to obtain likenesses of those one loved.

"When it is remembered that in those early days all portraits made by the Daguerreotype-process were made by whitening the face of the sitter and placing him or her in the sun for a half hour or even longer, the 'angle' chosen by Morse for his advertising-copy may be readily understood. I might mention, in passing, that this lengthy exposure was soon cut down to twenty seconds by John Frederick Goddard, who discovered the accelerating-properties of bromine, which, with iodine, produced bromo-iodide of silver on the surface of the plate. Goddard's discovery, needless to say, did much to make the daguerreotype a commercial success.

"As an interesting sidelight of those early days, I have copied two 'Palace of the Sun' advertisements from the New York papers of Morse's time.

"'To Those who Love'—reads the headline of the first one, taken from the New York *Sun*, surely a universal appeal, if there ever was one. 'How cold must be the heart that does not love,' the announcement continues reflectively. 'How fickle the heart that wishes not to keep the memory of the loved ones for after-times. Such cold and fickle hearts we do not address. But all others are advised to procure miniatures at Professor Morse's Daguerreotype Establishment.' Here is another, from the New York *Tribune*, which begins with the solemn headline: 'In After-Years' followed by the text: 'In after-years to retain in our possession the likeness of some one who has been loved by us is a delicious, even if sometimes a melancholy, pleasure. Such a pleasure can any one enjoy who patronizes Professor Morse, the celebrated Daguerreotype Artist in his Palace of the Sun on Broadway.' Note the skill with which all details of the process itself are left out of these 'early-day' advertisements, and how 'sob-stuff' that would do credit to Laura Jean Libby is substituted in its stead. To paraphrase a famous advertising-slogan: 'There was a reason.'

"The daguerreotype held sway for about ten years, from 1839 to 1851, although early in 1849 the skids on which the art and practice of daguerreotypy were to slide to oblivion were already being prepared by Gustave Le Gray, who, in that year, began to make photographic experiments with a substance called collodion, which consisted of a solution of guncotton in ether and alcohol. This preparation was introduced into England in 1847 and Le Gray tried to use it as a means to improve the discovery of Nièpce St. Victor, Nièpce's nephew, who had placed the albumen-process—in which the iodide of silver was retained on the plate by means of the white of an egg—on the market.

"Le Gray tried to substitute collodion for the albumen used by St. Victor, but was not successful in the attempt. Frederick Scott Archer, an Englishman who was working along the same lines, finally mastered the working-details of the process and, in March 1851, wrote an article for a magazine called *The Chemist* in which he described the first workable method of what is to this day known as the 'wet-collodion' process. Archer made the first collodion-negative in 1848, and so popular did this process become that it displaced entirely the callotype and the daguerreotype, being used almost exclusively between 1855 and 1881. In fact, before Archer's time, photography was regarded as a curiosity, but the perfecting of the collodion-process made the art of picture-making, for the first time, popular.

"Even to this day, wet-collodion plates are considered excellent for and largely used in the making of lantern-slides and similar work. The only disadvantage in using the process was the fact that the plates had to be used while wet. A photographer who went out to make a few landscapes in the days of Archer had to carry along with him a darkroom on wheels in which his plates could be prepared. And yet I have heard some of you complain because you were sent out to do some architectural work and had

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to carry an 11 x 14 camera and a few dozen plate-holders. The next time you get an assignment of this kind, think of what the photographer who wanted to do similar work in Archer's time would have to carry along and be glad that things aren't worse. To remedy the disadvantage of the wet-emulsion, desperate efforts were made by many would-be inventors to find something with which to cover and to dry the sensitive surface of a collodion-plate. Had our esteemed guardian of food-stuffs, Mr. Hoover, lived in those days, he would have found it a difficult task to carry out his plans for the conservation of food, for among the many substances experimented on and recommended as dryers for collodion-plates were brown sugar, white sugar, malt, raspberry-vinegar, molasses, tea, beer, coffee, and even tobacco. Despite his discovery of the collodion-process, his introduction of pyrogallic acid as a developer, and the invention of numerous other photographic innovations—including a camera in which plates could be exposed, developed and fixed—Archer died a very poor man, leaving his family destitute. A fund was immediately started to keep these poor unfortunates from starving to death and I have clipped a little notice from the June 13, 1857, issue of *Punch*, to give you an idea of how the appeal was made.

"'To the Sons of the Sun'—the announcement is headed, and the text reads: 'The inventor of collodion is dead, leaving his invention unpatented to enrich thousands, and his family unportioned to the battle of life. Now, one expects a photographer to be almost as sensitive as the collodion to which Mr. Scott Archer helped him. A deposit of silver is now wanted (gold will do) and certain faces now in the dark chamber will light up wonderfully, with an effect never before equalled in photography. Now, answers must not be in the negative.'

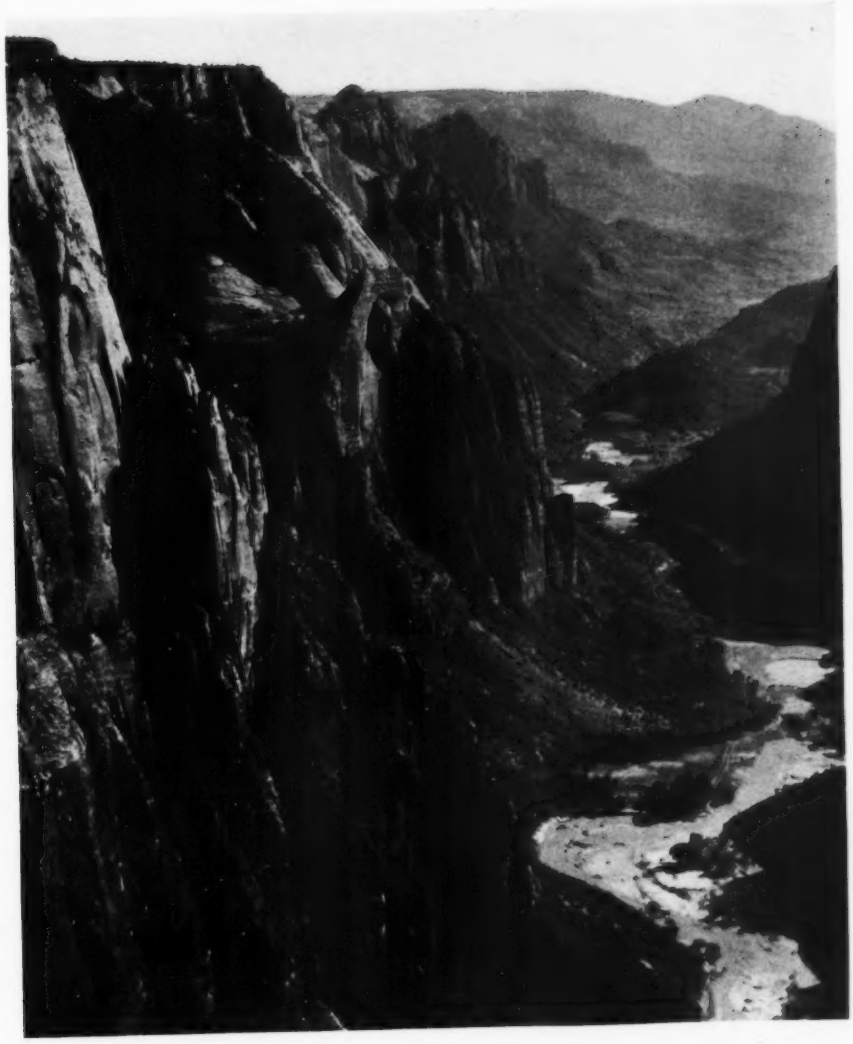
"The expense of metallic tablets, and the labor and inconvenience of preparing collodion-plates, induced many experimenters to work in the direction of a dry photographic emulsion. The aim was accomplished when, on July 18, 1873, J. Burgess, of Peckham, advertised that he had for sale a ready-made solution with which photographers could coat glass and so make their own dryplates. However, the name of the actual inventor of dryplates is about as clear as the income-tax law—and as much argued about. Burgess, Maddox, Kennett Wratten, and many others were all aiming for the same goal, and it is hard to determine who reached it first. Suffice it to say, that the introduction of dryplates marked a new epoch in photography and when, in 1878, Wratten and Wainwright advertised ready-made dryplates for sale, the product sprang into instant popularity and remains in universal use to this day.

"To go back to the source of the next step in photography, it is now necessary that we retrace our steps to the time of Archer again, and see what other men were doing in other lines. In 1859 Alexander Parkes, of Birmingham, patented the preparation of a substance made from nitro-cellulose and camphor. Hyatt, of Newark, afterwards commercialized Parkes' process, the product of which was called celluloid, and to this very day Newark remains the center of the celluloid-industry.

"However, it was not until almost forty years later, in 1884, to be exact, that celluloid was thought of in connection with photography. In that year John Carbutt, of Philadelphia, experimented with this material as a base. It must not be inferred, however, that attempts had not been made before Carbutt's time to make a film-roll. As far back as 1854, J. B. Spencer and H. J. Melhuish had already taken out a patent on a long sheet of sensitized paper upon which pictures could be obtained in succession, the unexposed parts of the strip being rolled up inside the camera. In 1868, Dawson, of London, published a method of producing a transparent, flexible supporting-film which could be used as a ground for a photographic emulsion. Both these 'roll-film' departures as well as many others that appeared from time to time, must have 'gone wrong' in the manufacture, for they never became popular. From 1884, the year in which John Carbutt started to work with celluloid, many more or less successful celluloid-films were placed on sale. Finally Eastman, in 1885, invented what was known as 'stripping-film.' This was merely paper prepared with a sensitized gelatine-film, which allowed the finished negative to be stripped from the paper-support and then transferred to a gelatine or celluloid base before printing.

"In 1887 Goodwin, a New York clergyman, perfected a celluloid-film and applied for a patent on his discovery. However, it was not granted until 1898, and while it was in the United States Patent Office, the Eastman Kodak Company applied for a similar patent. Cody, of the Blair Camera Company, had already patented, in 1894, the use of the daylight-loading cartridge, and, in 1903, the first celluloid photographic film, with a layer of gelatine on the back to prevent curling, was placed upon the market by Eastman.

"This brings us a considerable distance along the road," Professor Pyro concluded, "and I have no doubt that the remainder of the path will now be a more familiar one to you all."



ZION CANYON, UTAH
GEORGE R. KING

Practical and Humorous Experiences in Photography

Part I. Lenses, Shutters and Cameras

A. H. BEARDSLEY

FOR those who are a little rusty with regard to what a lens really is, let me quote my friend Webster who says that a lens is "a piece of transparent substance having two opposite regular surfaces, both curved, or one curved and one plane, used for changing the direction of rays of light." As a matter of fact a lens can also be some other things best defined verbally. Several times, in my own experience, a lens has changed more than just the direction of rays of light. Most photographic lenses—the above definition notwithstanding—are made of glass and not of any "piece of transparent substance." Moreover, they are made of many kinds of glass and in many definite types of construction. For instance, there are meniscus, meniscus-achromatic, rapid-rectilinear and anastigmat lenses. The type or name that you select has much to do with the price of the camera, but nothing whatever to do with the picture you get—that depends upon you and upon no one or nothing else. Those who consider this statement too pedantic, please read on.

Despite my inherent dislike of publicity with regard to personal matters, I am compelled to admit that not always was it possible for me to rattle off technical lens-names, and know whereof I rattled. At one time, a lens was to me a piece of glass in the front of a black box called a camera; also I was aware that without this piece of glass there could be no picture. With this extensive knowledge at my disposal, I determined to purchase a good lens for my two-dollar box-camera. This decision was reached not because I was obtaining poor pictures, but rather because an advertisement in a photographic magazine made me discontented with my lens-equipment. So determined was I to improve my equipment, that I was willing to spend ten dollars!

The thing that rankles me deeply to this day is not that the photo-salesman informed me that a better lens could not be fitted to my two-dollar camera, but the fact that he actually laughed in my face! The result of this experience was that I learned that my two-dollar camera was equipped with a meniscus lens and that the only improvement I could make within my limit of ten dollars was to purchase a larger camera fitted with a meniscus-achromatic lens. This I did eventually and, at the same time, increased the up-keep of my equipment dangerously near the breaking-point of my finances.

Several months later, the get-a-better-lens fever attacked me again. Although I did not know what a rapid-rectilinear lens was or why it was better than a meniscus-achromatic, I must have one at all costs. Again I discovered that a better lens could not be fitted to my larger box-camera. I was obliged to purchase a new outfit. This time the camera was a folding-pocket model and it had to be focused—whatever that meant. Then and there I found out why the "cuss" was put in focus. Of all the ingenious contrivances to lead men from the path of verbal virtue, a focusing-camera is without a peer. No matter how beautifully sharp and brilliant the picture appeared in the little glass periscope—finder—of the camera, my pictures were invariably distorted, blurry, unrecognizable and the cause of unlimited public and private "cussing." However, the day arrived finally when I learned to set the focusing-scale for fifteen feet instead of one hundred feet for a snapshot of my dog asleep on the front porch. Likewise I learned that the various stops or openings of the lens were intended to be used, not merely to be referred to, when showing the camera to admiring friends. In short, I discovered that a snapshot made with the lens "stopped" to its smallest opening invariably resulted in a good piece of clear celluloid devoid of any semblance of a picture; also, by using the largest opening in too brilliant sunshine I obtained a striking resemblance to a dark and stormy night with not a soul in sight.

For the third and last time that insidious get-a-better-lens germ tore my photographic happiness asunder. This time I must have an anastigmat lens. Thanks to my experience with the rapid-rectilinear lens I found out why it was superior to the meniscus-achromatic, even if it did have to be focused. Vertical and horizontal lines in my pictures were no longer knock-kneed or barrel-shaped and the sharpness of the image was better. However, toward the edges of my picture a slight unwelcome diffusion—when using the largest opening—often spoiled an otherwise good picture of a telegraph-pole rampant or the backyard-fence in repose. The manufacturers of the anastigmat lens assured me that all these difficulties would be swept

THE WHITE ROOF W. E. POTTER

away just as soon as one of their lenses was fitted to my camera. The selection of an anastigmat lens is no child's play, nor is it an undertaking that those of weak heart should attempt. True enough, the matter appears to be simple, very simple. You wish to buy an anastigmat lens, therefore, call at your dealer's and buy one—nothing to it at all. However, wait a moment. Let me ask you a few simple questions. What focal length do you wish? What size plate do you wish to cover at full aperture? With regard to speed, do you wish an F/6.8, F/6.3 or F/4.5? Will you need a symmetrical or convertible anastigmat? What angle of view do you wish to include? Will you use the rising-and-sliding front on your camera? Have you a single, double or triple extension camera-box? What kind of a shutter have you now or what kind will you require? Do you prefer a cemented or uncemented lens? Is the front-board of your camera detachable? What make of lens have you in mind? Do you wish to trade in your present equipment and—well, have you answered these questions? Unless you are able to do so the lens-salesman will have to use his own judgment. Perhaps, you may find one who knows less about it than you do; in that event, "the truth lies between you: you're both right and both wrong."

In connection with the possibility of a lens-salesman knowing less than the customer, let me disclose a hushed incident of the past. The occasion was a young photo-salesman's first attempt to sell an anastigmat lens. One morning a gentleman entered the store and announced that he was there to buy a new anastigmat equipment for his 3A camera. This was good news, indeed; but how to sell such a lens to the gentleman was beyond the young photo-salesman at that time; however, the proprietor was out and the amount of the sale was too great for him to give up without a struggle. With trembling knees and a sickening feeling about his heart, the salesman awaited the first question.

"Well, young man, what's the best focal length for this 3A camera?" he asked, and shoved the camera toward the salesman across the counter as if his looking at it would help in the least.

"A friend of mine told me that a 6½-inch was better than a 6-inch, what do you think?"

Really, it was immaterial to the photo-salesman which he had. As far as he was concerned, the customer was welcome to either. Well, the photo-salesman had to say something.

"Your friend is quite right," he replied, as if the opinion of the customer's friend and his own coincided because of their superior knowledge—in the same manner that two physicians agree to operate. "Without a doubt the 6½-inch will give you better service in the end."

To his amazement the customer accepted his reply; but forthwith proceeded to hand him a photographic knock-out.

"Will you tell me what F/6.8 or F/6.3 on a lens signifies and the difference between them? I have often wondered, and I made up my mind to ask some one who really knew. No doubt, you can tell me," and the customer settled himself on the counter with a now-I-am-going-to-get-facts expression on his face.

Then and there the embryo photo-salesman had it on the tip of his tongue to ask the customer to excuse him, as he was not enjoying his usual good health. However, the sale must not be lost, so the salesman plunged into an explanation that would have made a strong lens-manufacturer weep as an infant.

"Really, it is all very simple," he began, knowing only too well that it was not. "The mark F/6.8 is a peculiar trade-mark which anastigmat lens-manufacturers use to distinguish their own lenses from those of a cheaper and less satisfactory type. The F in the expression, F/6.8, signifies 'fast'"—somewhere he had heard that an anastigmat was a fast lens—"and the difference between F/6.8 and F/6.3 is that the larger number is the faster lens and vice versa. Of course," he added, "other things enter into an exhaustive explanation, but these are the essential facts."

"Your explanation isn't as complicated as I thought it would be," the customer remarked. The photo-salesman agreed heartily. "Well, here's my camera; put the 6½-inch lens on it as soon as you can and send it up to the house."

Thanks to the friendly co-operation of the proprietor the lens was fitted and the young photo-salesman's first lens-customer was well satisfied. Several years later they met again, and the salesman hastened to set himself right about his explanation of F/6.8 and F/6.3 which had won the day when neither of them knew what the other was talking about.

To return to the anastigmat lens—I bought one. For two or three days, while it was being fitted to my camera, I worked, ate and slept with a lens-catalog at my side. At the end of three days I could speak of radial and tangential astigmatism, chromatic and spherical aberration, curvature of field, distortion, circle of least confusion, flare-spots, internal reflections and other properties of lenses as if I had always lived in a lens-factory. However, knowing the terms has nothing whatsoever to do with getting good pictures. This truism I learned after great mental and financial effort. Moreover, another fact to remember is that the cost of a lens has no relation to the results you obtain with it. The deciding factor—whether you pay two dollars or two hundred—is *you!*

The day that I received my new F/4.5 anastigmat is one long to be remembered. For months—yes, years—I had hoped and saved for this day of photographic days. I could not get home fast enough. At length, safe from interruption in my room, I sat down with the new outfit in my lap. For nearly twenty minutes I sat there and looked at the concrete evidence that my fondest photographic hopes had been realized. Then I began to get curious. I unscrewed the front lens and held it up to the light. Horrors! there were two bubbles in the glass. Bitter disappointment quickly gave place to rage. Without a doubt, I had been systematically deceived because of my ignorance of anastigmat lenses. I hurried to the telephone and poured out my anger on the proprietor of the photo-supply store. Finally, when I was entirely out of breath, the proprietor got his first opportunity.

"Wait a moment, hold on," he said somewhat brusquely, "we did not deceive you, nor did we take advantage of you. If you will refer to any standard lens-catalog you will learn that small air-bubbles often appear in the most expensive anastigmat lenses. These bubbles are *not defects.* The best optical glass in the world cannot be made wholly free of bubbles. As a matter of fact, air-bubbles are more of a proof of merit than a defect in a lens. They have no appreciable result on its effectiveness. You will find that I am right—Goodbye!" Bang went the telephone-receiver. Sheepishly I returned to my room and picked up the first lens-catalog I could find. Sure enough, there it was in black and white. With all my reading and study of terms I had overlooked a highly important fact.

At length, I regained my composure and proceeded with the inspection. I found no more real or fancied trouble. The next thing was to make some pictures. Eagerly I filled three double plateholders and hurried to a nearby park. There I made six exposures and to each one I applied all that I knew about focusing, adjusting the iris-diaphragm of the lens and set-

DOUGLAS FIR-TREE
D. W. ROSS

ting the speed of the shutter. Thanks to my experience with the rapid rectilinear lens, I knew something of how to manipulate my new lens to the best advantage. To make a long story short, my six exposures came out passably well—much to my amazement and delight. However, I realized that an F/4.5 anastigmat lens is like a ninety-horse-power roadster—you have the power, but it is not always wise to use it to the limit. Never use a fast anastigmat lens at its largest aperture unless absence of light or a fast moving object requires it. Treat the speed of your lens as a source of reserve power. It cost me much disappointment and money to find this out. There is virtually little depth of focus with an F/4.5 anastigmat unless used at the medium stops, such as F/8 or F/16. I almost called up the proprietor of the photo-supply store again on this point, when I discovered that with speed I did not get depth of focus and that with depth of focus I did not get speed. Take your choice; it is one or the other—there is no compromise short of the use of small stops and careful focusing. However, F/4.5 lenses as used on vest-pocket cameras show very satisfactory depth of focus. I learned the truth of the following lens-facts. Use your anastigmat just as you would your old rapid rectilinear lens until you have mastered the rudiments of its manipulation and its eccentricities. Do not for a moment think that your lens-troubles are over. A fifty-dollar lens can be possessed of more "cussedness" than a balky gas-engine on a cold morning. Make up your mind at the start that you know absolutely nothing about your new anastigmat lens. Resolve that you will begin at the very bottom of the lens-ladder to creep up, step by step, until you do know all there is to know about *your own lens*—then, you will become a consistent maker of good pictures.

(*To be continued.*)

Tulle as a Diffusing-Means in Enlarging

REV. H. O. FENTON

THE use of chiffon, in place of bolting-silk, to obtain diffusion in enlarging, has so much merit, that a description may be welcome. Some cardboard is procured and cut into squares,—four inches, let us say. Out of the centers of these a square is cut of three inches, thus giving a rim 4 x 4½ inches wide. A number of these will be required. Cardboard is the easiest material to use for these; but it would be better if they could be cut out of three-ply or fretwood with a fretsaw. Some tulle is bought, black or white, or some of both. Then the glue-pot is made ready. One of the rims, or frames, is put flat on a board or piece of cardboard, and one thickness of the tulle is stretched tightly over it and kept in position by pins driven into the board, but clear of the frame. A second frame is then taken, one side is covered with glue, and that side put down squarely on the first frame. A weight is put on for a few minutes to allow the glue to harden. We have now one thickness of tulle imprisoned between a pair of frames. The outlying tulle is trimmed off; and the performance repeated, by again stretching the tulle over the frame just made, and again applying a gluey frame. Thus we have two pieces of tulle mounted suitably and separated by the thickness of one piece of cardboard. If three-ply is used, there is a greater separation, owing to its thickness. This is no disadvantage. It is obvious that we can mount four or six pieces of tulle in the same way. These frames are interposed between the lens and the bromide paper during enlargement.

One way to do this is to bore holes through the frames and thread them on a knitting-needle, the latter being driven into the top of the lens panel. Another way is to put them into the bellows behind the lens. I saw this varied once by a man who built a small box between the bellows and the lens. This box had a light-tight lid, and just accommodated the frames, which were made sufficiently small for the purpose. He also used this arrangement when making portraits, and the effect was excellent. White tulle seems to give more diffusion than black.

The use of tulle, of course, increases the exposure. It will be found fairly correct to multiply the normal exposure without tulle by half the number of thicknesses of tulle used. Thus, if the normal exposure were ten seconds, with four pieces of tulle the exposure would be $10 \times 4 \div 2 = 20$ seconds. It is noticeable that the use of tulle in the case of portraits, particularly, renders retouching almost unnecessary, and it is wonderfully helpful in breaking up deep masses of shadow.—*Amateur Photographer.*

CORINTHIAN ADAPTED TO RESIDENCE — EDWARD LEE HARRISON

Architectural Traditions for the Photographer

The Greek and Roman Orders

EDWARD LEE HARRISON

THE famed Roman architect, Vitruvius, was wont to assert that the true artist should possess the theory of all professions, but the practice only of his own. The successful photographer, also, must command a wide diversity of knowledge, not the least of whose ramifications might extend into the realm of ancient and modern architecture.

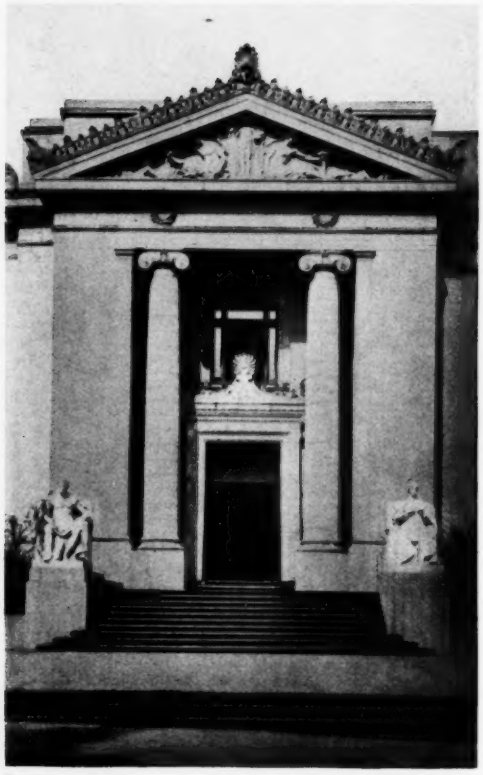
The foundation of modern architectural design is, of course, the classic Greek and Roman orders of architecture. The Egyptian, the Assyrian, the Saracen and the Norman have all had their say; yet the chief influence is classic, and it is doubtful whether modern skill may suffice to equal the temples which for centuries have been the admiration of the world.

Gazing back through the shadowy centuries we may still see them and marvel—pile upon pile, temple upon temple—built with sweat and laughter and tears, as the genius of man slowly drove forward toward the beautiful and the sublime. The temple of Diana at Ephesus was reckoned among the Seven Wonders of the World. The Temple of Zeus and the Parthenon, The Arch of Titus and the Colosseum—these remain to-day and will remain for all time, beacon-lights for the world of Art.

From the original wooden post and lintel, embellished at length with cap and base, cut from the same log as the column, the Greek artisans gradually evolved the Doric column and entablature, whose substantial appearance was so well fitted to the rugged granite of which they were built by the artisans of old.

The Ionic and Corinthian orders were of much later origin, but were immensely popular in Athens, Thebes and Corinth, at the zenith of their power. There is a legend concerning the origin of the Ionic capital, and consequent development of a new order, which may be of interest.

Chersiphron, a famous architect of the sixth century B.C., exploiting the design for a mighty temple to Zeus before a committee of Athenians, found them coldly unresponsive to the Doric design that he had conceived. Seeing his com-



CLASSIC FAÇADE EDWARD LEE HARRISON

mission in danger, the clever architect cast his roll of parchment over the model of the column capital, forming a rude effect of the voluted Ionic style as it is seen to-day. The conception pleased the judges, and the first Ionic temple was the result.

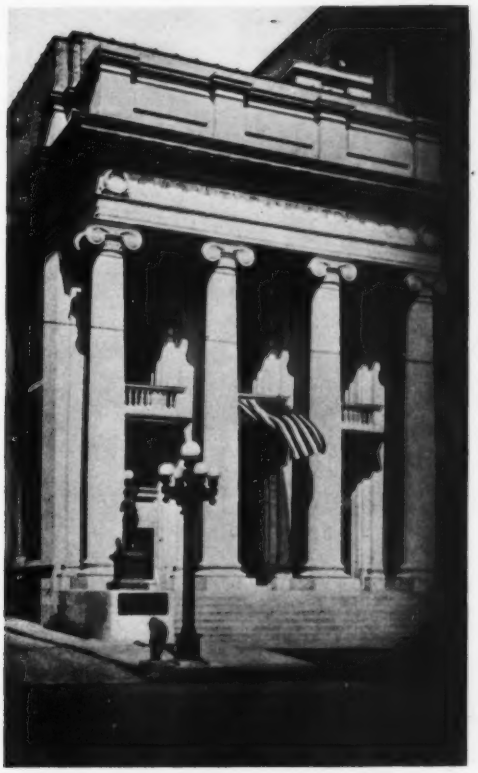
A similar legend is related concerning the Corinthian order, in which Ictinus, a very famous architect of Corinth, struck by the beauty of the leaves twining around the bell of a vase he had overturned into an acanthus-bush, modeled therefrom a new order.

The chief excellence of the Greek orders undoubtedly resides in their exquisite proportions, supplemented by the beauty of the cast shadows, which the brilliant Attic sunlight rendered most vividly. Color was also used freely to amplify and to refine the designs.

It is said that the great English painter Turner sat for hours gazing over the sun-bathed hills at the ruins of the Acropolis, and that he would not paint the scene, declaring the task beyond him.

If the temples of the gods, lying cold and dead upon the deserted hills of their departed glory, still retain power to so thrill the souls of men, what must have been their grandeur in that day, when they blazed with light and color before the eyes of an adoring nation!

The great similarity between the Roman orders and the Greek is a matter of no astonishment to any who have followed Roman history closely. The Roman genius was peculiar unto itself—in the power of acquisition. It surpassed that of all other nations. And so it was that, having no national architecture of his own, the Roman builder frankly and cheerfully borrowed that of his more studious Grecian neighbor, with a



GRECIAN IONIC CAPITALS EDWARD LEE HARRISON

number of modifications, few of them much for the better.

It is characteristic of the Roman arrogance that, in the end, their architects seized upon the two most beautiful Greek orders, the Ionic and the Corinthian, and combined them in the flamboyant and entirely characteristically pompous order known as the Composite. This order has through sheer lack of merit gradually fallen into disuse, and is now seldom seen.

The real power of the Roman genius was expended upon structural rather than architectural design—that is, the Roman mind was more concerned with the strength of the building than with its appearance. The Roman developed the arch—he invented hydraulic cement and made use of the vaulted dome. He was an engineer, if you will, but he was also an artist, in his own way. The triumphal arches and the public baths of Rome have never been surpassed.

It is of prime importance that the photographer recognize the great value of cast shadows in the portrayal of Greek and Roman architecture. If these are neglected, in many cases the chief characteristics of the design are lost, and no eye accustomed to judge buildings will be satisfied with the results produced by carelessness in this most important respect.

This should not be construed to mean that no classic façade can be rendered except in full sunlight. Many beautiful studies have been made in soft lights, in silhouette and even in the rain; but an architecture designed primarily for a sunny setting, cannot be interpreted with general success without cast shadows.

Many things the pictorial artist need not

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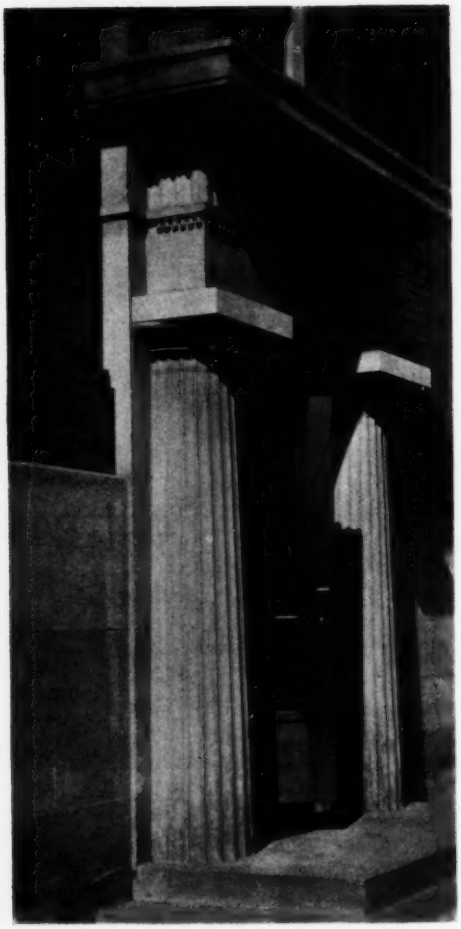
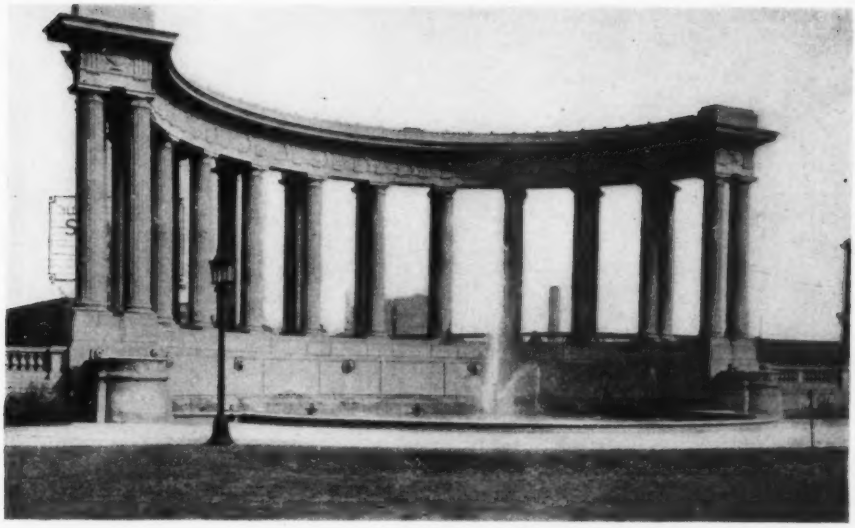


GRECIAN DORIC
EDWARD LEE HARRISON



ROMAN DORIC STYLE — EDWARD LEE HARRISON

master. He may appreciate, without fully entering into, the various refinements practiced by the ancient builders. Many of these are lost. The æsthetic eye which could attach supreme importance to an almost imperceptible curve in the cornice of a mighty temple, or an increase of a finger's breadth in the center span of a vast colonnade, is indeed beyond the comprehension of many of our modern builders.

Nevertheless, a brief study of the essential characteristics of the various styles cannot fail to lend keener insight into methods of portrayal. And better methods are followed by more artistic pictures, greater enthusiasm and more enduring success.

As to details of finishing, the individual taste of the artist must guide. One of the best things in a recent photographic exhibit was an immense sepia enlargement of a railroad-station, designed in the Roman Doric order. The warm tones of the picture rendered the lights and crisp shadows of the style even better than if color had been employed. On the other hand, the star-picture in a recent Autochrome exhibit was a dainty Greek Corinthian residence in a sunny classic garden setting. The building fitted into the landscape like a beautiful cameo; color, sunlight and shadow were absolutely essential to the success of the picture.

Many architects prefer a uniform gray or sepia finish for all their pictures, but one of the best designers in a large metropolitan office said last year that he "always looked for color in the classics." The feeling is there. The desire for sunlight is inherent in the work created among the brilliant hills of Greece and Rome. And when the circumstances permit, color should be introduced, especially among the lighter types of architecture, such as residences and theaters. Obviously, all coloring should be done with judgment and skill for it is vitally important to the photographic and artistic success of the architectural picture. Tinted enlargements are coming more and more into favor among the architects, landscape-gardeners and other designers; and nowhere are they so pleasing as in classic architecture.

Desirable Qualities in a Landscape

THE critics of landscape usually give to the scene represented such qualities as are suitable to walk in, suitable or pleasant to look at, suitable to ramble in, and suitable to live in. The sansui (landscape) that is supreme combines the four qualities. However, if it should be that only a part can be given, then that which is suitable to live in and to ramble in is preferable.

Kuo Hsi.

FATHER AND MOTHER — H. A. ROBINSON

The Citizen-Owner of a Camera in War-Times

LOUIS F. BUCHER

BY this time, most people realize the important part that is being played in the war by the camera which for many years has been used by young and old—men and women—as a hobby or pastime. This war has developed the use of the camera to record the movements of the enemy, the progress being made in the construction of ships, cantonments, munition-plants and patriotic movements. And do you suppose that the Government would allow statements to be made of the awful devastation and ruin—not to speak of the many other horrors that have been committed—if it were not in possession of ample and undisputable proof in the form of photographs? It is no secret that almost the first persons to enter a town retaken from the enemy are the photographers, whose duty it is to record the ruins for the official files. But the use of a camera to help win the war is so well known that it is hardly necessary to go deeply into the subject, other than to use it as a contrast to what follows.

The citizen-owner of a camera could possibly be called the holder of a "slacker-camera," were it not for the fact that this is not so—at least not in Newark, N. J., or vicinity. Later on, this statement will hold good throughout the United States, I hope, when the people grasp the value of the work explained in the following paragraphs. Mr. Don Sheppard Gates, City-Wide Secretary of the Newark Y. M. C. A., some weeks ago approached the writer and Mr. Julius F. Graether—both members of the Newark Camera Club—with the proposition to organize a RED TRIANGLE CAMERA CLUB, the object of which would be to send "a photograph of home to every soldier overseas." After discussing the matter, pro and con, it was decided that the project should be taken in hand by the Newark Camera Club, which appointed a Committee composed of three members to be known as the Central Committee.

The organization was started with fifteen members of our own club and with the assistance of the newspapers, dealers and department-stores we soon had seventy members, all of whom had volunteered to give their services at least one day a month, to cover the assignments given them. We obtained our information, as to what soldiers from Newark and vicinity were overseas, from many different sources. Our volunteer photographers were then furnished with a credential-card, and about seven or eight names and home-addresses of soldiers who were known to be overseas, in order that they could call upon their parents and make a picture of the home-folks, just as they happened to be when our member called, mind you, and not all dressed up as they would be for a professional

photographer. Then the picture would be sent to the son, brother or husband—as it happened to be—together with a letter of cheer written on paper furnished by the Central Committee.

If you wish to obtain the full meaning of this work and its value, just close your eyes and imagine yourself three thousand miles from home with all water between you and the loved ones. You go to the American Post Office No. 709 and in your mail you find an envelope addressed correctly to you, but in a handwriting unknown. Your curiosity is aroused and you wonder whom the letter is from. Imagine, again, the amazement and satisfaction when you find a picture of mother in an old house-dress and apron! You know at once that she has been washing dishes, the very ones from which you once ate such good things and which you now long for, despite the quality and quantity given you by your Uncle Sam. And here's a letter, too; why, I don't know him; gee, he's a good fellow to do that. I never saw a picture like that of mother before. Looks like her—and she is evidently well, too—yes, he says she is. Just then the bugle blows and you open your eyes, and sticking the letter and picture in your pocket for future reading and sight, you go off briskly, knowing full well why five million brothers are with you in making the world a decent place to live in.

And don't think for a moment that it is all honey and sugar, acting as a member of the Red Triangle Camera Club. In fact, in covering some cases myself, in order to get color and know what could be expected, I often wondered whether I had a soft heart, or whether the cases I came across were as pathetic as they appeared. I believe that they were. For instance: at one house where I called, an old lady answered the bell and, as I explained that the work I was doing was for the Y. M. C. A., tears came to her eyes. She insisted upon my coming in and read a letter just received from her grandson who was in France. It seems that the boy had been rather listless and a so-called "high flyer," and the tone of his letter, in which he praised the Red Cross and Y. M. C. A. work, was such as to imply that the greatness of life had been brought home to him by the war and when he got back to "God's Country," as he called it, he was never going to hit the high spots again. The straight and narrow for him and, as the grandmother said, she "always knew that John was a good boy, and that proves it."

One of the great difficulties encountered by our representatives was in dealing with those in quarters populated largely with foreigners, who, although interpreters were along, seemed to think

THE SERGEANT'S FAMILY W. COMPTON

that we were out for the Government to get pictures of their husbands so they could not escape the draft. But even this does not deter our members; for wherever possible, when we are in possession of the military address, pictures familiar to the soldier or scenes about the city are sent him in the usual way. Later on, the Newark Camera Club intends to send other pictures to all soldiers for whom we have a military overseas address. From this you will readily see the good work that can be done by the citizen-owner of a camera in war-times, and we hope that other clubs, as well as individuals, will undertake this worthy work in their own town, and I shall be pleased to give full details as to method of procedure of those who are interested sufficiently to write me.

This letter is sent to prospective members:—

Dear Sir:—

We all of us feel that we would like to do something toward the welfare of "Our Boys" in the Service, but have been at a loss as to just what we were best fitted for in the existing circumstances. The opportunity now comes to every amateur photographer, and you, as well as I, can do our bit in this way. Offer your services as a photographer to the RED TRIANGLE CAMERA CLUB, which is being managed by the NEWARK

THE LIEUTENANT'S SON J. F. GRAETHER

CAMERA CLUB, under the auspices of the Y. M. C. A. As a volunteer, you will be furnished with proper credentials, and assigned to the homes of some of our boys in the Service of Humanity, where you will take pains to inquire the military address of the man under arms. You will then proceed to make a snapshot of his parents, sisters, or brothers, or some other picture that will appeal to the soldier in the trenches.

After you have made the pictures, you will then see that TWO prints are made, and in no case are pictures to be larger than 3¼ x 5½ inches. Send one to the man in service, together with a short letter on paper furnished by the Central Committee. Forward the other print to the Central Committee, writing plainly on the back, the name and address of the boy to whom photo is sent, with your own name and address.

You can imagine no pleasure greater to a man "Over There" than to receive such a letter together with a picture of home. The object is to bring the home in touch with the man overseas. You can help and the cost to you will be very small in comparison with the pleasure and satisfaction derived by you. We want your services as an amateur photographer and can assure you that we will lend you all the aid in our power to bring about the desired result.

The happiness and welfare of our soldiers is our first duty. We know you are not going to see them want for a picture of the home-folks and, therefore, await with pleasure the offer of your assistance.

Very truly yours,

This is sent to members with their first assignment:—

SUGGESTIONS.

Go to the homes assigned you on enclosed cards.

Best time to interview families with foreign names, Sunday morning or afternoon. American families, any afternoon.

Do not cover any foreign names without the aid of an interpreter. Get in touch with interpreter we suggest and arrange for appointment. If this is impossible, secure the aid of an interpreter in the district you are working.

EXPLAIN YOUR PURPOSE FULLY, emphasizing the fact that it is all done *free of charge*, as most families will take you for a commercial photographer. Show your identification-card.

Ask for the boy's military address. Make picture of mother, father, sister or brother. If they refuse to have their picture made and you have received the boy's address, make a picture of the home or some familiar scene.

Do not spend too much time with one family. If they refuse to give the boy's address after the plan has been thoroughly explained to them, go to your next assignment.

After you have covered all of your assignments, mail your pictures to the boys at the front, together with a letter written on stationery furnished you.

Return your cards to the Central Committee, giving information on each case, together with a print of every picture made, giving soldier's military address.

IN looking through some portrait-negatives which had been made with the camera facing the light, we were rather astonished that they were all more or less foggy. They printed fairly well, but slowly, and certainly did not give as full a scale of tones as if the fog had been absent. In remarking upon this, the operator said that "it was a pity the 'Rembrandt' negatives always came like that." A suggestion that he should shade the lens was met by the reply that, if he did that, he altered the lighting. This, we pointed out, was quite a wrong idea, as the shading could all be done between the sitter and the lens, so that the lighting was in no way interfered with. The best way to do this is to use an ordinary circular head-screen, which may be covered temporarily with dark material, and to place this in such a position between lens and sitters that, when the eye is in front of the lens, the observer cannot see the source of illumination. This result can be obtained easily without interfering with the view of the sitter; but to make sure of this a final glance should be given at the focusing-screen. The ordinary lens-hood or canopy is not sufficient, as it moves with the lens. What is needed is a movable screen, which can be so placed that it shades off the window, and its image just clears the edge of the plate.

The British Journal.

FATHER AT WORK, A. M. PLATT

FATHER AND SISTER, LOUIS F. BUCKER

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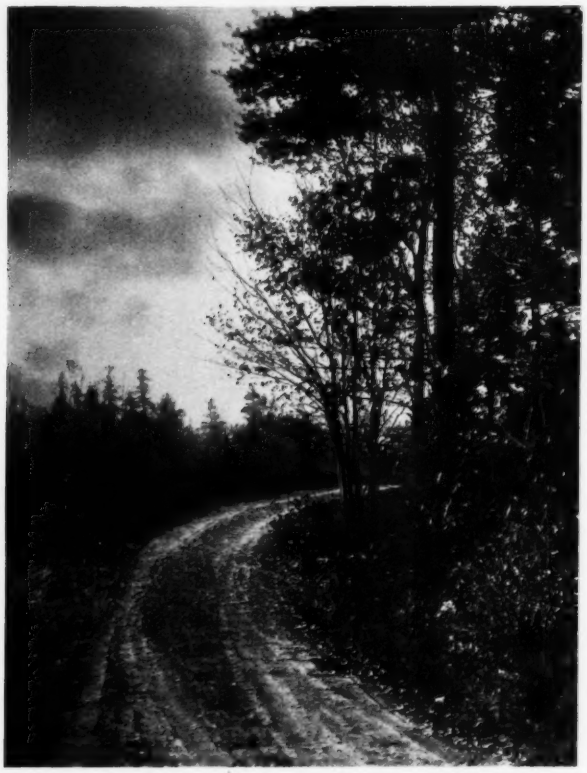

Frederick B. Hodges

The Curve in the Road

FREDERICK B. HODGES

No crowding, fevered throngs come here; yet, with the soft voices of earth and sky calling us, the beckoning hand of the swerving road enticing us, here is infinite wealth.

Ah, road of gold, like an open door into a world of promise, like a glimpse into the treasure-chambers of God. The city-street, the road of town, leave no such touch of joy as that which stirs our heart at this bend of the woodland-road.

It is a path spread with beautiful messages that possess for us both material and spiritual healing. Here the winds are clean and their music wild, and here, because of this revelation, courses a richer stream of love in our hearts.

EDITORIAL

A Photographic Society of America

IT is refreshing to see renewed activity among our camera-clubs, several of which have enlarged the field of their usefulness in their respective communities by engaging in certain kinds of war-work which they are eminently fitted to perform. Witness the patriotic and successful campaign of home-portraiture among the families of Americans who are at present performing military service in far-off Europe, that is being conducted by the members of the Newark Camera Club. The fact that camera-clubs can initiate new and appropriate enterprises, and thus take on new life and increased usefulness, should act as a stimulus to some of our photographic Salons, whose one-sided activity, year after year, invites monotony and decline of interest, which, in turn, is likely to result in premature death. Why not follow the lead of an energetic and far-sighted camera-club and unfurl a sail that will propel the photographic craft more swiftly on the sea of useful activity? There is the Royal Photographic Society of Great Britain, which has held, recently, its thirty-third annual exhibition which extended over a period of six weeks. The continued, splendid success of this time-honored institution is due chiefly to the character of its scope, which, unlike that of the American Salons, is not confined to the display of pictorial photographs, but is extended to include scientific and technical branches of photography—color-photography, radiography, photo-micrography, transparencies, natural history, physiology, astronomical photography, war-photographs, and the photographic industries. An exhibition of this character is not only entertaining, insofar as it gratifies the artistic sense, but highly instructive and illuminating, and, in the degree that it represents diverse interests, it makes an appeal to the general public and attracts a larger attendance than it otherwise would. Persons who are not interested, particularly, in pictorial photography, but in work that represents the application of the camera in the fields of animal-life, botany, astronomy, mineralogy, and photography in natural colors, whether on glass or on paper, find in the exhibitions of the Royal Photographic Society much to interest them. Photographers, professionals and amateurs, eager to see the latest improvements in apparatus, materials and processes, will visit with profit the industrial sections of such an exhibition. Another attractive feature of this annual event is a series of fourteen or more lantern-lectures on popular and scientific subjects, the speakers being men of distinguished authority. In a word, it is a photographic exhibition that is broad and comprehensive in its scope, and owes its prestige to the successful management of its affairs by men of acknowledged ability, reputation and influence. No wonder that it enjoys universal confidence and the support of an appreciative public.

There are numerous practical benefits that accrue to the industrial exhibitors that should not be overlooked. The fact that a photograph is hung in this exhibition, whether in the pictorial section or in a scientific or technical one—it makes no difference—is a recognized honor to the maker of the print. If of exceptional technical merit, such a picture naturally reflects credit upon the particular make of apparatus or material used in its production, seeing which, the manufacturer who is represented in the trade-section of the exhibition is eager to utilize it to his advantage. For instance, visitors to the headquarters of a certain dryplate-manufacturer will be told that the much-admired color-values in Mr. So-and-so's "Meadow at Somerset" are due to the particular excellence of his new "Special Orthonon Plate." Then, the manufacturer or agent of the printing-medium used in making this particular print, dwelling upon the qualities that characterize his specialty and which are so pleasingly and convincingly displayed in the "Meadow at Somerset," will claim his share of credit. He, too, is just as proud of that picture as if he, himself, had made it. If, perchance, the manufacturer's product does not happen to enjoy constant, unflagging notoriety, such an unexpected, but, nevertheless, authoritative endorsement of the merits of his product will be of inestimable benefit to him, indeed, a form of publicity greatly to be desired—an ideal advertisement.

In view of the success that marks the annual exhibitions of the Royal Photographic Society, would it not be a good idea if the executive boards of the American Salons considered the adoption of some of the features of that distinguished institution? Perhaps, if one of the several Salons in the United States were to introduce such an innovation, selecting as its officers men of known ability, character and influence, and forming an organization with adequate capital and strong enough to command the confidence and respect of the photographic world, the question of the much-talked-of American Academy of Photography would come near being answered.

XUM

ADVANCED COMPETITION

Closing the last day of every month
Address all prints to PHOTO-ERA, Advanced Competition
367 Boylston Street, Boston, U. S. A.

Prizes

First Prize: Value $10.00.
Second Prize: Value $5.00.
Third Prize: Value $2.50.

Honorable Mention: Those whose work is deemed worthy of reproduction with the prize-winning pictures, or in later issues, will be given Honorable Mention.

Prizes may be chosen by the winner, and will be awarded in photographic materials sold by any dealer or manufacturer who advertises in PHOTO-ERA, or in books. If preferred, the winner of a first prize may have a solid silver cup, of artistic design, suitably engraved.

Certificates of award, printed on parchment-paper, signed by the Publisher, and suitable for framing, will be sent on request, and free of charge, to winners of prizes or Honorable Mention.

Rules

1. This competition is free and open to photographers of ability and in good standing—amateur or professional.

2. As many prints as desired, may be entered, ***but they must represent, throughout, the personal, unaided work of competitors. Remember that subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered in competition elsewhere, before Photo-Era awards are announced.*** Prints on rough or linen-finish surface are not suitable for reproduction, and should be accompanied by smooth prints on P. O. P., or developing-paper having the same gradations and detail. All prints should be mounted on stiff boards.

3. *Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces or fraction is sent with the data.*

4. *Each print entered must bear the maker's name and address, the title of the picture and name and month of competition, and should be accompanied by a letter,* SENT SEPARATELY, *giving full particulars of date, light, plate or film, make, type and focus of lens, stop used, exposure, developer and printing-process. Enclose return-postage in this letter. Data-blanks will be sent upon request.* ***Be sure to state on the back of every print exactly for what competition it is intended.***

5. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA, unless otherwise requested by the contestant. However, this does not prevent the photographer from disposing of other prints from such negatives after he shall have received official recognition.

6. Competitors are requested not to send prints whose mounts exceed about 11 x 14 inches, unless they are packed with *double thicknesses of* ***stiff*** *corrugated board, not the flexible kind—or with thin wood-veneer.* Large packages may be sent by express.

7. Competitors who have won three first prizes within a twelve-month, become ineligible for two years thereafter. The too frequent capture of the first prize by one and the same competitor tends to discourage other participants and to make the competitions appear one-sided and monotonous.

Awards—Architectural Subjects
Closed October 31, 1918

First Prize: E. M. Pratt.
Second Prize: Milton M. Bitter.
Third Prize: Leopold Zwarg.

Honorable Mention: A. Adams, W. G. Adams, Carl G. Brown, H. G. Cleveland, Chas. Donn, S. H. Gottscho, Stephen Marsh, Emmett L. Miller, F. W. G. Moebus, F. Y. Ogasawara, Maude Paget, J. Herbert Saunders, Joseph Coburn Smith, Alice E. Souther, James Thomson.

Subjects for Competition — 1918

"Indoor-Genres." Closes December 31.

1919

"The Spirit of Christmas." Closes January 31.
"Still-Life." Closes February 28.
"The Spirit of Winter." Closes March 31.
"Rainy-Day Pictures." Closes April 30.
"Miscellaneous." Closes May 31.
"The Spirit of Spring." Closes June 30.
"Landscapes with Figures." Closes July 31.
"Shore-Scenes." Closes August 31.
"Outdoor-Genres." Closes September 30.
"Architectural Subjects." Closes October 31.
"Domestic Pets." Closes November 30.

Photo-Era Prize-Cup

IN deference to the wishes of prize-winners, the Publisher will give them the choice of photographic supplies to the full amount of the First Prize ($10.00), or a solid silver cup, of artistic and original design, suitably inscribed, as shown in the accompanying illustration.

Two Helpful Hints

GRAFLEX-USERS who often are compelled to use the "open" shutter will find a small weight placed on top in front of the hood handy to overcome the jar of the rising mirror, thus preventing a double image.

Amateurs who remove prints from warm hypo or sepia-baths to cold or hard running water, will find that squeegeeing prints, while wet—first between two blotters—is a good way to save the blistered prints.

J. A. WHITECAR.

CALIFORNIA STATE CAPITOL — E. M. PRATT

FIRST PRIZE — ARCHITECTURAL SUBJECTS

Advanced Competition—Still Life
Closes February 28, 1918

In one sense, still-life photography is easy; in another, it is supremely difficult. Because the subjects are inanimate, the task appears to be very simple. However, it is not their motionless character alone that must be dealt with, but their color and artistic arrangement—in these lies the difficulty. Our still-life competition of a year ago was an unqualified success. Many exceptionally artistic pictures were submitted. It will be well worth the time and effort of every participant to look up his May, 1918, Photo-Era in order to study the successful three still-life pictures on pages 257–260 inclusive. Particular attention should be paid to Mrs. Fannie T. Cassidy's remarkably fine study, "Your World as You Make It," as a striking example of originality in composition and lighting. In Mr. J. W. Newton's "The Spirit of Helpfulness," we have an appeal that cannot be denied. Mr. H. R. Decker's "Fruit" is a conventional subject treated in an original and technically perfect manner. With these three excellent examples before him, the camerist should be able to understand clearly that record-photographs are not desired and that they will find small favor with the jury. At the outset, let every contestant realize fully that successful still-life photography demands skill, invention and study.

For some unaccountable reason, the mere mention of still-life photography causes the average camerist to visualize a vase filled with flowers or a basket of fruit. It does not seem to occur to many that a pair of overalls, a dinner-pail and a box of tools might be made into a picture of artistic interest. The great trouble seems to be that the average camerist loses himself in a nebular maze of artistic aspirations, instead of staying on earth with the rest of us to portray that which is part of his life and our own. Virtually, the entire success of a still-life picture depends upon its artistic appeal. More often than not, it is the elevation of something humble to the sublime that gives it the strongest interest. We may marvel at the artistic interpretation of this or that fancy of the artist; but the picture that arouses our emotions is the one that is nearest our daily lives.

The technical side of the subject under consideration should prove to be as attractive as the subject itself. In order to produce true values, it will be necessary to master the use of a suitable plate or film in connection with the proper ray-filter. The advent of the panchromatic plate has enabled the camerist to obtain marvelous results in monochrome. Of course, some subjects will require no special technical treatment; but others will test the camerist's photographic skill to the uttermost. The matter of lighting is a study in itself. Some subjects cannot be made by flashlight;

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others require combined daylight and flashlight or gas and electric-light; and still others daylight only. The background should receive particular attention, as it is imperative that the eye should rest on the subject undisturbed by distortion or incongruous accessories. It should be remembered that the surroundings must harmonize with the thought and subject. No matter how beautiful the idea may be, if an incongruous accessory is introduced, the finished result is disappointing—the spell is broken.

Still-life subjects are legion. Think of the hundreds of things in your daily home and business-life. There are infinite possibilities in the selection and portrayal of the tools used by the carpenter, plumber, painter and mason. Among professional men, writers, artists, physicians, musicians and sculptors use the "tools" of their trade just as truly and skilfully as the carpenter or plumber. The goal to be attained is to arrange these various "tools" so that they "live, move and have their being" in a true, inspiring and beautiful visualized thought.

At present, many timely and appropriate subjects may be found by the aid of soldiers, sailors and war-workers. Doubtless, many of the veterans will bring trophies or souvenirs of one kind or another that could be used to advantage in a still-life picture. Likewise, many war-workers may be counted upon to co-operate in the making of a picture for this competition. Obviously, nothing of a gruesome nature would find favor; but any combination of trophies or souvenirs that might in a measure depict the stirring events of the last four years would be welcome from a pictorial and historical point of view. A still-life picture that portrays any part of the Great War is worthy of the camerist's best effort. Never, again, will such a subject be as fresh and filled with spontaneity as now. Moreover, in a few short years it will be no easy matter to obtain the co-operation of our veterans, for many of the trophies and souvenirs will become lost or will be packed away beyond the reach of the camerist. In short, now is the time to make the most of present opportunities all around us.

It should be evident that the hackneyed theme of flowers in a vase or an overturned basket of fruit will not be welcome in this competition. However, despite the thousands of variations now so well known, there are cases where a camerist has actually hit upon an original treatment of this time-worn subject. If any participant is convinced that he has a flower-picture that is strikingly original, let him send it, by all means. Often, it is fully as creditable to evolve something original out of threadbare material as it is to produce something entirely new. Six persons never see the same object in exactly the same manner. Hence, some enterprising camerist may see a vase filled with flowers in such a new and beautiful light, that we will all be amazed at our own lack of perception.

One of the most illuminating articles on still-life photography that has appeared in PHOTO-ERA is, "Making the Still-Life Picture," by W. R. Bradford, in the January, 1918, issue. Every participant will do well to re-read this article by a man who knows whereof he writes. Many of Mr. Bradford's pictures have appeared in the pages of PHOTO-ERA and all are admirable examples of still-life photography. It will be noted that he employs "properties" that are at hand or readily obtainable. Moreover, he does not let us guess at the identity of a single accessory, and for this very reason his still-life pictures make a strong appeal and because they portray bits of life of which we have actual knowledge. The camerist may think that the results obtained do not parallel the difficulties of landscape or genre-photography; but let him try it! He will find that the making of a good still-life is eminently worthy his very best technical and artistic knowledge.

It is to be hoped that the still-life competition of 1919 will prove to be at least as successful as the one of a year ago. From the evident enthusiasm displayed at that time, it would seem that there are many camerists who know how to produce prize-winning still-life pictures. We hope that these, and all readers of PHOTO-ERA, will utilize the long winter-evenings and other spare moments to good advantage. Participants should know that the jury is just as eager to award a prize or honorable mention as the contestant is eager to receive it. Now, in popular parlance, "go to it!"

A. H. B.

Another Glass-Mystery

A WRITER in the *British Journal of Photography*, quoted in the August PHOTO-ERA, tells of a mysterious latent image in the glass of old negatives which is likely to re-appear after they have been thoroughly cleaned and re-coated. This image re-appears even more frequently if the glass is to be used for silvering.

In a slightly different connection, I have been mystified several times by the luminous appearance of the glass-graduate in which I keep the developer for Autochrome plates. It is my practice to switch off the darkroom-light whenever possible during the progress of development. I use a Wratten and Wainwright green safelight for this work. Suddenly, in absolute darkness, I will notice the eight-ounce graduate standing out just as if the green safelight were shining upon it. The first time this happened, I thought I had forgotten to turn off the light. The graduate always stands about eighteen inches directly in front of the darkroom-light, and the luminosity is always on the side toward the—extinguished—safelight. The luminosity extends to the top of the graduate where it appears strongest on account of the flared top; there are never over three or four ounces of the developer in the graduate at a time. I use the metoquinone stock-solution prepared by the makers, and, of course, it is always poured back into the graduate to be used for re-development later.

The same phenomenon has also occurred when I was developing the Wratten and Wainwright Panchromatic plates by the same safelight, using pyro-soda developer. In this case a jelly-glass also showed the luminescence: for several years I had used the glass exclusively for pyro developer, and it contained used developer at the time. As in the case of the graduate, the phosphorescent glow was on the side toward the safelight.

Apparently the green light is a contributing cause, but not the only one, as none of the other bottles or glasses standing near showed the least effect. As the stock-solutions in the bottles were apparently innocent, it is probably safe to say that developer that has been used on a panchromatic emulsion is a second cause. If the same dye or chemical not used for ordinary or orthochromatic plates, is used in the making of the Autochrome and the Panchromatic plate, this may be the cause we are seeking. Possibly the chemical stores up light-energy from the safelight; but why does the glass glow except in parts that may have been wet by the solution? The luminescence soon disappears; and there seems to be no definite law for its appearance. This climate—California—too, is peculiarly free of electrical conditions of the atmosphere.

WINN W. DAVIDSON.

According to Dr. Precht, the phenomenon of Phosphorescence is explained as follows: (1) The alkaline

SECOND PRIZE
ARCHITECTURAL SUBJECTS

THE GATEWAY OF KNOWLEDGE — MILTON M. BITTER

pyrogallic acid solution liberates oxygen on the addition of acids, by which the sodium sulphite is oxidized to sulphate, this oxidation being accompanied by phosphorescence. (2) The acid pyro-solution suddenly takes up oxygen on the addition of sodium sulphite and soda, and also this oxidation is accompanied by phosphorescence. Thus, easily reducible substances produce phosphorescence with any strong alkaline pyro-solution.

Potassium permanganate, for instance, is phosphorescent when a mixture of pyrogallic acid and soda is added to it. It is assumed that an intermediary product is formed of alkaline pyro-solution and oxygen, which gives off again the oxygen only on the addition of acid, and that the then liberated oxygen gives rise to phosphorescence by combining itself with the sulphite to form sulphate. Phosphorescence is apt to fog gelatine-plates, should they retain traces of the pyro-developer. Therefore, in practice, such plates should not pass from the pyro-developer into a solution of alum or of citric acid, or, indeed, to any other solution, before the last traces of the developer have been removed from it by careful washing. Very small quantities of pyro, less than .005 per cent are sufficient in some cases to cause a phosphorescence of the film.—[EDITOR.]

The Value of Process-Plates

MANY photographers are, to our mind, not sufficiently familiar with what may be termed the special brands of plates designed to give superior results in certain classes of work. Among these may be mentioned the slow or process plate; which, quite apart from the special kind of work for which it is intended, has great advantages to offer in certain other branches. These plates will give great density, perfectly clean shadows, and have a great latitude in exposure. For line-drawings, the process-plate is virtually the only one that will give satisfaction, despite the idea of so many workers that an ordinary rapid plate may be made to serve if the negative is subsequently intensified; but one trial will be sufficient to convince even the most prejudiced worker on this point. When we have to make a plucky negative from one that is feeble and lacking in contrast, the slow or process plate will give us a much better result even without the subsequent intensification of the new negative than if one of the more rapid plates were employed and this is superior to attempting any intensification of the original, especially if we are not sure that this has been fixed perfectly and washed thoroughly. For the pur-

CITY HALL, PHILADELPHIA LEOPOLD ZWARG

pose of reproducing a weak negative by contact or by means of the camera-transparency, a very vigorous result may be obtained by using a process-plate, both for the transparency as well as for the second negative. This, however, by no means exhausts the uses of the process-plate. On one occasion we were commissioned to photograph a block of new offices in a crowded street, and a wish was expressed that no indications of traffic or human figures should be in evidence in the prints; the place was visited at various times of the day, but always without finding the particular quarter deserted.

The difficulty was solved very simply in the following manner. A process-plate was employed, having a speed of about 25H. and D. The lens was stopped down to F/4.5, and a three-time filter put on the lens. As the plates were not sensitive to yellow, this was reckoned at about twenty times, a former test being used as the basis for this. With a diffused light, an exposure of several minutes was given and the resulting negative showed no sign, whatever, of the passing traffic in the street, and was satisfactory, in every way. It has been said that photographers, as a whole, pay too little attention to the study of technique; but it is certain if this were not so, the value of the process-plate would be recognized far more widely than it is to-day. Process-plates may also be obtained in ortho and panchromatic grades, useful where a correct color-translation of the original is required.

EXPERT, in the *British Journal.*

Washing Prints in Sea-Water

IN view of camerists making snapshots at sea, occasionally, in which case rain-water may not be available, salt-water for merely washing after fixation may be used with comparative safety. English photographers on naval craft are using sea-water for washing prints after fixation and, as soon as convenient, washing them thoroughly in fresh water. The practice of resorting to the use of sea-water—in the absence of fresh, or distilled water, or even rain-water, in the circumstances described—is safe enough, except that if the salt in Neptune's element was not removed thoroughly, it might leave the prints hygroscopic or remain on them in the form of crystals. The final washing in fresh water is imperative, and it must be thorough.

THE CRUCIBLE

A MONTHLY DIGEST OF PHOTOGRAPHIC FACTS

With Reviews of Foreign Magazines, Progress and Investigation

Edited by A. H. BEARDSLEY

Hypo-Alum Toning

We are indebted to Rajar, Ltd., of England, for a description of their excellent method of hypo-alum toning, which is given herewith.

The hypo-alum toning-process is becoming increasingly popular among photographers, as it has been proved to be a most satisfactory method of toning bromide and gaslight prints, being simple to work and giving regularly good results. There is no degradation of the whites, and very little variation in the color, if the prints are exposed and developed properly. Perhaps, the only criticism against the process is the tendency to give very cold sepia or purple tones, and in this connection we recently carried out some trials in order to ascertain the best method of producing warm brown tones regularly.

Differences in the proportions of hypo and alum did not make any material difference, and there was none in the final tone of prints that were placed directly in the hot bath and those placed in the cold solution and gradually heated up. The amount of potassium bromide in the developer appears to influence the color; but, in our opinion, the final color is influenced mainly by exposure and development. For warm tones, the exposure should always be slightly on the over side, and development stopped a little short of the usual time for a black print. A print correctly exposed and fully developed to a good black will give invariably a cold purplish color after toning. What is wanted, is a nice balance maintained between exposure and development, and this is an instance where the personal skill and experience of the printer is useful. The formula we recommend is as follows:

1. The amount of potassium bromide in the developer should be not less than ½ grain to the ounce.
2. Exposure should be slightly on the over side.
3. Development should be stopped just short of full.
4. The old toning-bath should be retained and strengthened occasionally with fresh solution.
5. The ideal print for toning should be slightly greenish in color when it leaves the fixing-bath.

Very fine tones are obtained on gaslight-papers, the color being again strongly influenced by the exposure and development.

A suitable fixing-bath for prints that are to be toned in hypo-alum is:—

Strong Sulphuric Acid, 2 drms. (fl) in water—2 ozs.
Add this to Sulphite of Soda, 2 ozs. in water—6 ozs.
Pour mixture into Hypo, 16 ozs. in water—48 ozs.
Finally add to above mixture—

Chrome Alum, 1 oz., water, 8 ozs.

Mounting Photographic Prints on Glass

Photographs of scientific and technical subjects, particularly when serving educational purposes, as they pass from hand to hand, are mounted best directly behind a sheet of glass. In this manner, the picture will be protected not only against injury when being handled, but against atmospheric influences. This method of mounting is effective particularly with prints on glossy or matte paper. In order to obtain complete contact with the glass surface, it is necessary to flow the latter with a one-half per cent gelatine solution; but before doing this, the glass plate must be cleaned thoroughly and then polished. The gelatine emulsion is conveyed to the glass surface in the usual way and allowed to dry. The mounting of the print is done in the following way: The print is wetted thoroughly and with the gelatinized glass plate is brought under water and the print attached. When this has been accomplished, the whole is taken from the water and the print pressed firmly and evenly against the glass by means of a print-roller of a rubber squeegee. A sheet of flintless blotting-paper is then laid on top of the print, weighted down flat with a few magazines or a large book and set aside to dry.

Using Stale Dryplates

There are many workers who have on hand, partly used or unopened, boxes of dryplates of uncertain age, that to-day yield flat negatives. Becoming discouraged, the average consumer is very apt to discard them as permanently useless—except, perhaps, as glass to be cleaned and recoated—when, as a matter of fact, they can be made to produce fairly good results. A standard formula is as follows: Immerse the plates for fifteen minutes in twenty ounces of water containing one-fourth ounce of potassium bichromate and one-fourth ounce of ammonium bromide. Then rinse plates for thirty minutes, wipe with tuft of cotton and dry spontaneously—all of which work must be done by ruby light.

The Camera at the Bedside

The connection between photography and influenza is not very obvious, but in the elucidation of the recent epidemics photography, as everywhere else, plays an important part. It is not merely that photography is a means of recording the appearance of microscopical specimens in the pathological laboratory; it has its clinical uses in the wards of the hospital as well. Doctors who have been studying the curious group of diseases with which influenza is more or less associated—a group which includes "botulism"—have found it useful to photograph the faces of their patients as they lie in bed, the photographs bringing out the characteristic facial appearance of these cases. Recently, we saw a "bedside-series" of photographs of people afflicted with these modern ills (if they are modern); and very interesting and suggestive they were, too, even to the layman. The medical man pursues many strange lines of inquiry when you are ill, but perhaps he gets his surest information from a glance at your face; and the bedside camera puts the face on record, either for purposes of comparison or consultation. The camera may one day be as necessary an implement for the consulting-room as the stethoscope.—*A. P. and P.*

BEGINNERS' COMPETITION

Closing the last day of every month
Address all prints to PHOTO-ERA, Beginners' Competition
367 Boylston Street, Boston, Mass. U. S. A.

Prizes

First Prize: Value, $2.50.
Second Prize: Value. $1.50.

Honorable Mention: Those whose work is deemed worthy of reproduction with the prize-winning pictures, or in later issues, will be given Honorable Mention.

Certificates of award, printed on parchment-paper, signed by the Publisher, and suitable for framing, will be sent on request, and free of charge, to winners of prizes or Honorable Mention.

Subject for each contest is ***"Miscellaneous"***; but original themes are preferred.

Prizes, chosen by the winner, will be awarded in photographic materials, sold by any dealer or manufacturer who advertises in PHOTO-ERA, or in books.

Rules

1. This competition is open only to beginners of not more than one year's practical camera-activity, and without any practical help from friend or professional expert. A signed statement to this effect should accompany the data.

2. Workers are eligible so long as they have not won a first prize in this competition. Winners of the first prize automatically drop out permanently, but may enter prints in the Advanced Class at any time.

3. Prints eligible are contact-prints from 2¼ x 3¼ to and including 3¼ x 5½ inches, and enlargements up to and including 8 x 10 inches.

4. As many prints as desired, in any medium except blue-print, may be entered, but they must represent the unaided work of the competitor from start to finish, and must be tastefully mounted. ***Subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered in competition elsewhere, before Photo-Era awards are announced.*** Prints on rough or linen-finish surface paper are not suitable for reproduction, and should be accompanied by smooth prints on P.O.P., or developing-paper having the same gradations and detail.

5. *Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces or fraction is sent with the data.* ***Criticism on request.***

6. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA, unless otherwise requested by the contestant. However, he may dispose of other prints from such negatives *after* he shall have received official recognition.

7. *Each print entered must bear the maker's name, address, instructions, the title of the picture and the name and month of the competition, and should be accompanied by a letter,* SENT SEPARATELY, *giving full particulars of date, light, plate or film, make, type, and focus of lens, stop used, exposure, developer and printing-process. Enclose return-postage in this letter. Data-blanks will be sent upon request.* ***Be sure to state on the back of every print for what contest it is intended.***

8. Competitors are requested not to send prints whose mounts exceed about 11 x 14 inches, unless they are packed with *double thicknesses of* ***stiff*** *corrugated board—not the flexible kind, or with thin wood-veneer.* Large packages may be sent by express.

Awards—Beginners' Competition
Closed October 31, 1918

First Prize: E. H. Smith.
Second Prize: Alfred S. Upton.

Photographic Opportunities of the New Year

THE new year offers the beginner a definite starting-point in his photographic career. The holiday-season may have brought him a new camera and with it the desire to "make good," photographically. Then, there may be those who bought a camera hurriedly at vacation-time and failed miserably to obtain satisfactory results. In short, beginners now have the opportunity to make their New Year's photographic resolutions.

The first and most important resolution that a beginner should make is to master his camera. In no circumstances should he attempt to make pictures until he can manipulate the lens, shutter and adjustments of his equipment. An excellent way for the beginner to prove his ability is for him to try to explain the manipulation of lens shutter and adjustments to a person who knows absolutely nothing about cameras. If a beginner can make each point so clear, that the unsophisticated listener follows the explanation intelligently, the tyro is ready to attempt picture-making. This suggestion may appear to involve an unnecessary amount of time and effort; but rest assured that in the end, it will bring about a great saving of money, material and disappointment. Too many beginners—their eyes dazzled by the glare that has its source in the impression that photography is absurdly simple—hurry out with their new cameras expecting to achieve results. They do—but what results! Why is it that a beginner in photography is supposed to advance easily "on flowery beds of ease," but a beginner in rifle-shooting, baseball, golf or tennis must practice, practice and *continue to practice?* Moreover, photography is more of a science than it is a sport, and who can master even an elementary science in a day?

The beginner who receives a camera as a Christmas-gift should rejoice; but he should also take his present seriously. There are many "snapshooters" and too few real photographers. There appears to be a popular belief that every beginner must "sow his (photographic) wild oats" by snapping his camera to right and to left, regardless of subject, composition and expense. There is no truth in such twaddle. There is no more reason for a beginner in photography to waste material and money than there is for the purchaser of an automobile to overheat his engine, "strip" the gears, neglect to oil the bearings and otherwise to abuse his new car. The great opportunity of the new year is to *start right*, and *to stay right*, photographically. Every time the beginner draws his camera from its carrying-case, he should have a definite object in mind, so that he will make a distinct step in advance. At one time it might be to photograph a landscape; at another, it might be to portray mother in the bay-window; and at a third, it might be an attempt to catch the expression on the faces of "our boys" as they march past, just back

GRAY DAWN — E. H. SMITH

FIRST PRIZE — BEGINNERS' COMPETITION

from France. No matter what the subject may be, let every beginner make it an inflexible rule to do his very best. Within a few weeks he will be amazed at what he has accomplished, technically and artistically. It is the steady "plugging" that counts and not the spectacular effort of the moment.

Those beginners who began their photographic careers at vacation-time and who, for one reason or another, are discouraged photographically, should take heart. A little self-analysis will disclose the cause of failure. Perhaps there was too much of "I'll-take-a-chance" photography; possibly unusual weather-conditions added difficulties to the beginner's honest attempts to master his camera; or, again, there may have been no sincere desire to profit by mistakes. Whatever the cause of discouragement may be, let the beginner "forget it," make a New-Year's resolution to master his equipment and to begin now to make good in photography. There is always immense satisfaction in doing a thing right—even in picture-making.

The long winter-evenings should prove to be of inestimable value to every beginner, provided that he uses them to advantage. The art of developing, printing and enlarging requires time, effort and persistency for its mastery. Despite the developing-tanks, automatic printers and fixed-focus enlargers, the human element is still to be reckoned with in photographic manipulations. There should be a card printed and hung on every darkroom-door to read, "Photography is simple to those who master it." There is no denying the remarkable achievements in the simplification of photography; but even the addition of a few ounces of water to a prepared developer requires thought and accuracy on the part of the beginner. To grasp a tin-dipper filled with water and from it pour *about* so and so many ounces is the sort of "human element" manipulation that photography, no matter how simple it becomes, can never overcome. The same thing may be said of exposure-meters, automatic focusing-devices and other "short cuts" to obtain results without too much brain-work. As a matter of fact, there is no exposure-meter yet devised that does not require the use of thought and good judgment. Needless to say, an exposure-meter should be a part of every beginner's equipment; but the novice should not expect his exposure-meter to replace his own intelligence. However, any of these photographic "short cuts" are invaluable aids to the beginner who uses them as they are intended to be used—with common sense.

The study of photographic equipment of every kind will be of advantage to every beginner. Even though his present outfit is unpretentious, there is no reason why he should not accumulate information with regard to standard American and European cameras and their various accessories. Few ambitious beginners use the same outfit indefinitely. Usually, as soon as they master one they seek to obtain a more advanced type of camera and so continue until they have an *actual* and not merely a speaking acquaintance with virtually every camera of merit on the market. However, each step in advance must be based upon the thorough mastery of the preceding equipment. Careful study of manufacturers' catalogs and other descriptive matter combined with the thoughtful reading of photographic textbooks and magazines will do much to help the beginner use his present equipment to ad-

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vantage and will ensure rapid and satisfactory photographic progress in the future.

Although I have touched on the possibilities but briefly, I believe that the readers of this department will get my point. There should not be a labored effort to attain the goal set; but rather a happy, spontaneous desire to get out of photography all there is in it of pleasure, knowledge and artistic appreciation of the beautiful. Why not keep a brief record of photographic progress in 1919? By another year such a record, if kept faithfully, should prove to be valuable and a source of pride. Try it out for one year; but first make a New Year's resolution *to stick to it!*

A. H. B.

The Zodiacal Light

ONE of the advantages of the lessened glow of the great cities, is that many people are appreciating the night sky for the first time in their lives. The Milky Way, which is now visible to the town dweller, is easily captured on the photographic plate; but there is another luminous track which, although when seen from certain parts of the earth it is said to rival the Milky Way in brilliance, presents a much stiffer problem, and has rarely been photographed at all. This is the Zodiacal light, which is seen in the west after sunset or in the east before sunrise, and is supposed to be the glow from a cloud of meteoric matter revolving round the sun. Professor Douglass, of Arizona University, has brought forward a method of photographing the Zodiacal light which is interesting as another instance of building up a cumulative image. Exposures are made simultaneously on curved films with several lenses exactly alike, with large ratio of aperture to focal length. On each of the separate negatives the Zodiacal light is either invisible or very uncertain, but when the plates are placed in a pile the small effects become cumulative and the Zodiacal light shows up well.

Increased Contrast in Enlarging

IF a negative is at all inclined to be thin, it yields a better enlargement than contact print, the enlarging-process tending to give increased contrast. This has nothing to do with the size of the picture, but solely with the fact that it is being copied by means of a lens and not by contact; and it is possible therefore to use this method even when the print is not to be any larger than the negative, or when it is to be smaller. All that has to be done is to make it by means of the enlarging-lantern instead of with a printing-frame. For this purpose a greater degree of extension will be required for the front of the lantern than is sufficient for enlarging: but ample extension is valuable, not only for this purpose, but also to allow lantern-slides to be made by reduction by means of the enlarging-lantern. If the prints can be made on slow gaslight paper instead of on rapid bromide paper, which is possible if the lantern has a good light and the negative is not too opaque, there is still further gain in contrast.—*Photography.*

Printing from Very Dense Negatives

A READER has sent us a negative with a request that we should tell him what reducer to apply to it. There is sufficient, but not excessive, contrast; his trouble is that to make a print from it requires an altogether impracticable time. On printing-out paper it looks as if a day or two in medium light would be none too long. The advice we gave—and we repeat it here, as it has a wider application—is not to tamper with it at all. Reducers and intensifiers have their uses: but every rewetting of a negative involves risk of injury, and is only to be undertaken when there is some very good reason for it. Although it may take days to print on printing-out paper, it will not require more than a few seconds' exposure to give a fully-exposed positive on a rapid plate, and, when this has been made, a repetition of the process will yield a fresh negative with all the contrast and gradation of the old one, but without its opacity. It is not necessary to use transparency plates for such work as this, many even hold that the rapid plate, such as is used in the camera, is actually better, as tending to give better gradation than the very clean-working brilliant transparency plate. It will be quite soon enough to have recourse to a reducer when the duplicate negative method has failed; although we do not know any reducing-solution which we could recommend to remove the fog without at the same time endangering the image. Its action would be certain to bring with it a risk of injury to the gradation, which should not be lightly incurred. There is always a temptation to resort to intensifiers and reducers, against which the experienced worker is ever on his guard.

A. P. and P.

Lantern-Slides from Small Negatives

THE question is asked frequently by beginners what size should be the negatives for lantern-slides. To users of small cameras, including vestpocket size, the advice given by the editor of the *Amateur Photographer* should be very welcome.

"Lantern-slide making should certainly profit by the increasing popularity of cameras which take smaller sizes than quarter-plate (3¼ x 4¼ inches). The quarter-plate was too large for contact work, although many photographers refused to recognize the fact. The consequence was that many slides were made in which the subject was cramped, and the whole composition suffered from the attempt to include it in an area which was never considered when the original exposure was made. In looking at a large number of lantern-slides by many different workers, as was our task at the judging of the annual competition, it was quite easy to recognize the effects of this practice in many cases. The largest negative which may be considered as suitable for contact work in general is 3½ x 2½ and, even with this size, one has to be careful to leave an ample margin at each end of the plate: since when we allow for the binding of the slide, 3 1/16 inches is about the maximum that can be included. With quarter-plates, except by chance, or when the picture has been arranged intentionally in a limited area of the plate, it is much better to bow to the inevitable, and make the slide by reduction, even if the degree of reduction is only a slight one. If the quarter-plate negatives are to be used for slide-making by contact, the only safe plan, if we are to guard against such a fault as we have indicated, is to provide the ground-glass with a mask about 3 inches each way, or to mask off the finder to an equivalent extent, and take care to arrange the picture within the opening so marked off."

Hold Your Liberty Bonds

THE American soldiers in France have taken territory and hold it. The American people at home having taken Liberty Bonds should hold them. This is not only patriotic but it is very sound finance. Liberty Bonds are safe, and the probabilities are that they will greatly rise in value. Hold your Liberty Bonds.

SECOND PRIZE
BEGINNERS' COMPETITION

DOLLY D. ALFRED S. UPTON

A Simple Lens-Hood

THE smallness and compactness of the present day pocket hand-camera does not leave the maker much room to fit a decent-sized lens-hood; in fact, on most cameras of this type it is conspicuous by its absence. This may be very well from the point of view of portability; but there is no doubt that many a photograph is much poorer in quality from this cause than would otherwise have been the case, especially when the lens is used at a very large aperture. When the subject is one which is brilliantly lighted, as most hand-camera subjects are, flatness and fogginess are common faults, due to the unrestricted flood of light which finds its way through the lens. This can be prevented very easily by fitting a hood, which can be made in a few moments and at no cost, as this note will show.

The diameter of the lens should first be taken by means of a piece of string and a note made of the length. A piece of thin metal, brass or German silver (which by the way is not an enemy-product), will do very well about an inch wide and a quarter of an inch or so longer than the piece of string is obtained. This is then bent into a circular shape to fit the outside of the lens. The metal should first be heated to red heat and allowed to cool, as this makes it easier to bend. After the proper shape and size have been obtained, the hood is closed a little, so that when it is placed in position on the lens it has to be pressed out to enlarge the circle, and thus fits firmly in position.

C. R. D., in *A. P. and P.*

Removing Varnish from a Negative

WHEN a negative has been varnished and it becomes necessary to remove the varnish in order to treat the film with solution, it is not sufficient to remove the varnish itself, the gelatine will be left in a repellent condition, and will take any liquid unevenly. Any greasiness can be got rid of by soaking the negative in very dilute ammonia, one part of strong ammonia to a hundred parts of water. After two or three minutes in this, the surface should be rubbed gently with a tuft of cotton, and the negative washed for a few minutes. If it is still horny and repellent, it may be placed in water to which acetic acid has been added in the proportion of one ounce of acid to thirty ounces of water. A quarter to half an hour in this should leave it quite amenable to the solutions; but it might be necessary to rinse it in one or two changes of water, as any trace of acid would be injurious.—*A. P. and P.*

XUM

OUR ILLUSTRATIONS

WILFRED A. FRENCH

SWITZERLAND, the asylum of the tyrant and the oppressed, alike; the refuge of members of all warring factions, indiscriminately; threatened of invasion by the erstwhile war-lord; embarrassed, and suffering unjustly and diversely, in many ways, on account of the most cruel of all wars; hemmed in, all around, by a half-dozen different countries; existing, for centuries, only by the grace of the Great Powers, and unmarred physically by the effects of war, the little Helvetian republic still prevails. Her innumerable spots of natural loveliness will continue to delight the eye of the tourist-camerist; for lovers of nature from all quarters of the globe will resume their visits to this land of diversified natural beauty, when tranquillity shall again be restored to this troubled world.

Few artists have succeeded in revealing by photography her numerous and manifold pictorial treasures so well as G. R. Ballance. He has spent about ten years among the Swiss mountains and valleys, at all seasons of the year, portraying industriously and with exceptional artistic skill all classes of attractive subjects, familiar and otherwise, and since 1906 readers of PHOTO-ERA have had the rare pleasure to study, periodically, examples of Mr. Ballance's camera-work in Switzerland. The frontispiece, this month, is a delightful view of the favorite summer-resort, Brunnen, at the upper end of Lake of Uri, one of the arms of Lake Lucerne. The smiling scene embraces a wealth of beauty—so much, that the "trimming-brigade" threatens to get busy, for at the point of the bridge the picture appears divided in two nearly equal parts. Therefore, we can spare an inch at the bottom, thus lowering the bridge and the building and improving the general pictorial design. The technical qualities are superb, based partly upon the following data: July; bright; 5 x 7 camera; 8¼-inch Goerz Dagor; at F/8; 6-time ray filter; Ilford Iso plate; pyro-soda; contact print on C. C. Platinotype paper.

We suppose that Mr. Davidson intended his two subjects to serve a technical end, in which case it would not be quite fair to attribute to the author any serious artistic purpose. He is a pastmaster of technique, in its best sense, and whatever he chooses to pen on that subject, is welcome reading. He is also a keen, intelligent observer and wants to know the reason for everything, as a communication, printed elsewhere in this issue, will demonstrate. Data: "Pietro"; July, 2 P.M.; brilliant sun; 5 x 7 Premo; 7-inch Zeiss; U. S. 4; 2½ seconds; Hammer Non-Halation Ortho (D. C.); pyro-soda; N. C. Artura-Medium. "Chaparajos"; same month, time, light, camera, lens and stop; 1 second; Cramer Portrait Isonon; N. C. Artura-Medium; pyro-soda.

In lieu of a conventional winter-view, we present on page 7 a typical scene near Lake Geneva, Wisconsin, at an elevation of about two hundred feet, the home of the famous Yerkes astronomical observatory. "The chemical effect," as the professional expert would say, is supremely fine. We have before us a complete scale of gradations, from the deepest shade to the highest light, and it would be difficult to exceed the technical accomplishment of the photographer. Data: February 25, 1918; 11 A.M.; just after a severe snow-storm; 5 x 7 camera; 8-inch Luxor Anastigmat; stop, F/16; cloudy, but bright; 1/50 second; 5 x 7 Standard Orthonon; pyro; contact print, Azo F Hard.

The Hawaiian landscape, page 9, shows a well-known photo-pictorialist at his best. In this semi-tropical view the eye rests gratefully upon a subdued background furnished for the lofty palms, for usually the sky in similar pictures is barren and glaringly white, and the gentle diffusion of outline adds much to produce a pleasingly mellow, atmospheric effect. Thus, the highest lights, supplied by the two white structures —well placed in the picture, as they are—instead of offending the eye, as they might, really become the main point of interest. Tonal harmony in a satisfying composition, of pictorial and physical interest, is the net result of Mr. Turner's commendable effort. Data: January, 10.30 A.M.; 3 A Special Kodak (post-card-size); 6⅞-inch Tessar II B; stop, F/9; strong sunlight; 1/25 second; N. C. Eastman film; pyro; 8 x 10 enl. on Wellington Bromide with Verito lens.

Prints on rough-surface mediums do not lend themselves generally to satisfactory reproduction by the halftone-process; yet the results from the three prints that Mr. Gingrich sent with his article on the gum-process are by no means disappointing. The clearness of outline and the rough texture of the original prints reappear in the reproductions with scarcely any loss, although the pleasing warm-black tone of the originals had to be sacrificed. Nevertheless, this omission should not prejudice the beholder against the merits of the bi-gum process, as presented by Mr. Gingrich, who, justifiably pleased with the results he has achieved, unstintingly gives his experiences to the readers of PHOTO-ERA. Data: "The Author"; June; 5 x 7 Century camera; rapid rectilinear lens; stop F/16; gum-bichromate; M. Q. developer. "Betty"; October, 2 P.M.; sun; same camera and lens; U. S. 8; 6 seconds; Seed 26x; gum-bichromate; M. Q. developer. "The Spire"; June, 8 A.M.; bright; 1/10 second; U. S. 16; same camera and lens; Seed 26x; gum-bichromate; M. Q. developer.

As one gazes on the sublime majesty of the Zion Canyon, as presented by George R. King, on page 15, one seems to feel the supreme power of the camera. This feeling is capable of expansion proportionate to the increase in size of this magnificent representation. The mind can indulge in flights of fantasy, *ad libitum*, and wonder how infinitely meager are the works of the cathedral-builders of the renaissance, in comparison with the creative power of the Divine Architect. How colossal, how sublime, these rugged Gothic forms, as they rise, one above the other, from the depths of the valley to a height of several thousand feet, dwarfing, several times, the giant cathedral of Cologne —the perfection of Gothic architecture. The main entrance to that edifice may be more ornate, but it is far removed in simple grandeur and perpetual stability from the giant pointed arch that rears its head high above the valley, at the left in our picture. The play of light and shade is in keeping with the vast natural edifice—bold and vigorous. The atmospheric perspective and succession of planes is a triumph of photographic technique and a credit to Mr. King's uncommon skill. The Zion Canyon is situated in Southern Utah, tributary to the Grand Canyon, and has lately

been opened up and converted into a National Monument. It is intimately associated with the history of the Mormons and, doubtless, replete with thrilling tales and mysteries, which will tempt the genius of an imaginative writer. Data: April, 2 P.M.; dull sunlight; 8 x 10 Seneca camera; 12-inch Dagor; stop, F/32; B. & J. 3-time color-screen; full sunlight; 8 x 10 portrait-film; M. Q.; direct contact-print Azo.

The "White Roof," by W. E. Potter, page 17, makes a strong appeal to the artistic sense by reason of its novelty as a pictorial theme. It is unconventional, admirable in composition, the low-placed white roof of rigid form, opposed to the dark irregular, freely moulded mass of foliage, at the left. The motive is eminently original and artistic in treatment. Data: June, 2 P.M., bright, cloudy; 3½ x 4¼ Film-Pack; 7½-inch R. R. lens; stop, F/8; 3-time color-screen; 1/25 second; pyro-soda; print on No. 6 P. M. C.; Amidol.

Massive and grand in its seclusion, the giant fir, page 19, seems calmly to await the fate of many of its fellows—in accordance with the exigencies of war; for the wood of the fir, the spruce and the walnut-tree were great factors in the successful prosecution of the war. But such material thoughts should be banished in the contemplation of this superb picture, by D. W. Ross. The setting in the portrayal of this giant of the forest has been chosen with rare artistic judgment, which is fully justified by the gratifying result. Data: October 30, 1918; 3 P.M.; weak light, 5 x 7 Premo; 8¼-inch No. 3 Dagor; stop, F/8; ½ second; dryplate; pyro; 8 x 10 Bromide enlargement. 15 million feet of spruce and 25 million feet of fir were cut for airplane construction, from June 1917 to May 1918, by the Spruce Division, U. S. A.

As this issue of the magazine may reach the hands of many subscribers during the holiday season, it is hoped that the beauty of sentiment that pervades the poetic achievement of Frederick B. Hodges, page 30, will enter into the hearts and souls of the readers. It is, indeed, delightful to see such perfect blending of poetic expression and pictorial art as has been the good fortune of Mr. Hodges to accomplish. We compliment the poet-artist on the beauty, the nobility of his performance, and congratulate all those who will be privileged to enjoy the whole-souled, exalting offering of the accomplished author. Data: "The Plains," near Rome, N. Y.; October, 9 A.M.; fair light; 8 x 10 Century camera; 11½-inch Tessar; stop F/22; ½ second; 8 x 10 Stanley plate; pyro; Azo contact-print; clouds printed in.

Advanced Workers' Competition

THE best pictorial effects in architectural photography can be generally obtained in conjunction with trees in foliage. This is shown in an admirable manner by E. M. Pratt in his view of the state capitol of California, page 33. The lighting and sky, too, play very important parts in the artistic result—features equally well demonstrated in our picture of the California capitol, which, in its beautiful setting was hung in the last London Salon and received high praise from the critics of the daily and the photographic press.

Data: March 17, 1918; 2 P.M.; bright sun; 4 x 5 Sanders Camera; Struss Pictorial Lens; 12-inch focal length; stop used, F/5.5; K-2 color-screen; exposure-1/12 second; Standard Orthonon Plate; Rodinal, tank-development; 11 x 14 enlargement on Montauk Bromide No. 3; M. Q. developer; original diffusion in original negative reproduced without modification.

The somewhat symmetrical and rigid view of Mr. Bitter's beautiful picture of the entrance to some eminent institution of learning, page 35, has the softening aid of neighboring foliage. The overhead lighting brings out the carved decorations in the *façade* and imparts a pleasing brilliance to the elegant architecture. A nearby shade-tree partly conceals the apparently less interesting section over the entrance and simultaneously casts a grateful shadow on what would be a monotonous foreground, thus obviating too strong a tendency to topheaviness. The figure of the student about to enter gives needed life and significance and completes the picture. Data: July, 3 P.M.; clear, 5 x 7 Conley; back combination of 8-inch Gundlach Rectigraphic lens; stop F/14 (as marked) or F/22 for back combination; 1/10 second; Standard Polychrome plate, *glass-side to front;* pyro-acetone; print on Prof. Cyko Plat developed with Amidol (Johnson's). Photographed through glass-side of plate to reverse the image, bringing right on the door and making the lines and light run out of picture to the right.

The City Hall of Philadelphia, as pictured by Leopold Zwarg, on page 36, cannot be said to be a triumph in civic architecture; besides, the structure is inaccessible to the camera, although the tower, itself, is a convenient mark for a tele-photo equipment. Here, the column appears somewhat crowded, but, in reality, it is a feature in an architectural group, together with the Bellevue-Stratford Hotel and a business-block. The line of parked automobiles, and others in motion, form a desirable base to a typical view of the Quaker City. Data: Oct. 18, 1918; 4 P.M.; weak sunlight; 3¼ x 4¼ Seed Graflex plate; pyro-soda; 9½-inch Dagor; stop, F/6.8; 1/25 second; enl. on Artura Carbon Black, grade D.

Beginners' Competition

WHEN a beginner produces a picture of Salon quality it is an extraordinary event; and that is precisely what E. H. Smith, the first-prize winner, has done. "Gray Dawn," page 39, rejoices in simplicity of composition—two small, meager trees in a plain landscape and a gray sky. Yet, it is the pictorial treatment and poetic sentiment of this modest, almost commonplace theme that have produced a masterpiece. We know nothing of the history of the artist, except that he has honestly subscribed to the rules laid down in this competition.

He evinces an enviable knowledge of artistic composition, which must be obvious to the critical observer—the judicious repetition of the principal single object; the placement of this tree and its companion, the allotment of masses and the suggestion of the birth of a new day. Data: August, early morning; dull light; 4 x 5 Premo B; 6½-inch R. R. lens; at full opening; Seed G. E. 27; pyro, tray; contact print, Cyko Enlarging Glossy.

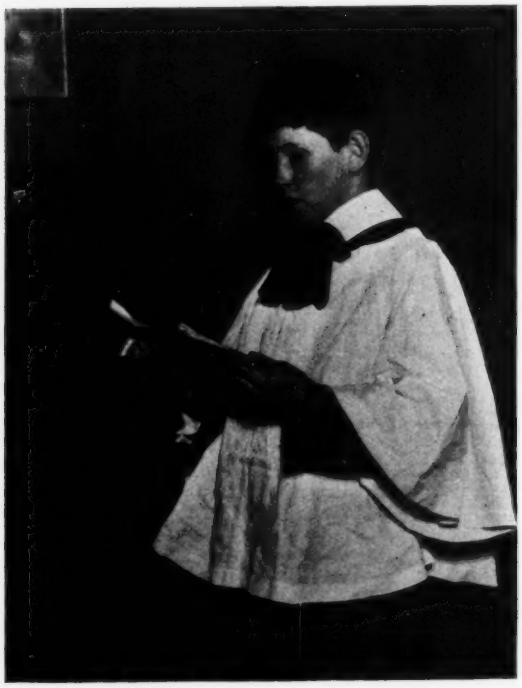
The charm of adolescence has been pictured with delightful success by Alfred S. Upton in, "Dolly D.," page 41. The grace and naturalness of the little girl, as she tests the perfume of a flower, and the dainty quality of the illumination, not to ignore the attractiveness of the model, herself, combine to produce a picture of rare loveliness. The vignetted effect, to modify a turbulent background, might have been done with greater skill, perhaps; but it is not a serious fault. Data; August, 1918; bright light; B. & L. R. R. lens. 6-inch focus; stop, U. S. 8; 1/15 second; Eastman N. C. Film; M. Q.; contact print Artura Iris.

Our Contributing Critics

THE picture offered this month to our contributing critics for consideration is, "In Cassock and Cotta" by Franklin I. Jordan.

XUM

OUR CONTRIBUTING CRITICS



YOUR CRITICISM IS INVITED

Whoever sends the best criticism (not over 150 words) before the twentieth of the current month, will receive from us, postpaid, a copy of "Pictorial Landscape Photography" by Paul Lewis Anderson, price $1.50.

WHAT are these children trying to do—holding up a tree? The tree looks as if it were about to fall and one of the poor things will be crushed. Their weight is distributed equally on their feet and legs: they are clearly not playing, because playing implies motion in children. They are staring at each other, but the lack of animation on their features forbids the assumption that they are engaged in a game of peek-a-boo or anything of that sort. What are they doing?

How do they happen to be so nicely dressed up in their best clothes in such a desolate, swampy place? It looks as if it were about to rain; the poor things will get wet, far from home and no one near to take care of them. In other words: the background is grossly incongruous with the center of interest which is the children. The children are in a pose which is inappropriate and unnatural. The picture is flat, because of lack of sunlight and shadow.

E. L. C. MORSE.

THE receding background, in this picture, gives excellent perspective with good separation of planes. The technical qualities are good, but the placing of the children is bad, as a divided interest takes place. One child appears to be pushing the tree over and out of the picture, whereas the other one, with her diminutive strength, to keep it from toppling over. The tree with its bare trunk is too large for picture-space and it would be better if camera had been withdrawn to considerable extent, which would have taken more space to right, making a splendid exit to scene and subjects would not be so badly centered.

M. N. BREMON.

THE position of the children is very strained and uncomfortable; together with the leaning tree is very unfortunate. There is nothing restful and the eye is led immediately out of the picture. The leaning of the main tree is repeated again by the large tree in background. Altogether, the print is flat and there is no difference in planes. It is a hard print to recommend a method of reconstruction. However, a straight tree with a less insistent background photographed in sun-

THE PICTURE CRITICIZED THIS MONTH

shine to give relief; also were the children placed in a more natural position, for instance, have the children leaning over—peeking as in real hide-and-seek—would give meaning and interest to the picture. Lastly, avoid placing the interest or main objects too near center.

LOUIS R. MURRAY.

IT is evident that the little girl in plaid is pushing the tree over despite the utmost effort of the little girl in the dark coat; and all my sympathy is with little Miss Dark Coat, for she is doing her best to stop the tree from falling, ignoring the imminent danger of being overwhelmed and crushed. I would suggest that the artist trim the picture so as to make the second large tree stand vertically, were it not that such trimming would cut off one foot of little Miss Dark Coat, and she needs both feet for her herculean task. If the center of interest were not so exactly centered in the picture-space, the trimming could be carried out without amputating a foot. Otherwise the picture is very good, especially the atmospheric perspective.

CLARENCE A. PIERCE.

WITH me, the feeling a picture gives, makes or mars it. When I look at the picture, under discussion, my first impulse is to remove the larger child from where she is, *for fear the tree will fall on her!* As I understand composition, the impression I get of the tree falling is due to it being one side of a triangle, the other *supporting* side being lacking. I believe that if the photographer had stood some ten or fifteen feet to the right, so as to make the tree in the rear, a support for the tree in the foreground, the picture would not give the feeling which I mention. It is regrettable that the photographer overlooked that detail of composition, for otherwise I consider the picture very good, indeed. Ample exposure, good tones (except in the larger girl's face—due to lighting), unobtrusive background, all combine to make what might have been a very successful picture.

FRANCIS S. MORRIS.

AN unfortunate selection was made in the tree used, the one selected slanting sharply to the right. With the short foreground at the bottom of the print, this makes the composition appear unstable, with the child on the right endeavoring to hold up the tree. The straight tree to the left would have been better. The branch protruding from the left side, above the child's head, is rather distracting, also. The posing of the children is commendable, with the exception of the one on the left whose left leg and foot are foreshortened and distorted. The lighting is rather flat, and there is no play of sunlight and shadow to offset the somber gray tone of the trees. The child's hand is gray, also. The composition seems to be slightly out of focus, with the sharp focus on the branch above mentioned. If the print was trimmed liberally from the top, it would greatly enhance the result. About an inch and a half off the top of the print changes it to a pleasing study.

H. J. SHIPTON.

XUM

ON THE GROUND-GLASS

WILFRED A. FRENCH

The Moon in Art and Photography

MR. DAVIS' evening-landscape with its deceptively placed moon, which was criticized by PHOTO-ERA readers in our Contributing Critics Department, last June, has engaged the interest of several professional artists in Boston and elsewhere. They poke fun at photographers, declaring that when they desire to improve the sky of their pictures of "The Declining Day," insert the form of a young or a waning moon without the slightest regard for accuracy.

A certain well-known artist, who has a deep-seated prejudice against all pictorial photographers, brought me a photograph of an attractive late-afternoon landscape in which, surely enough, the camerist had introduced the crescent-moon in quite the wrong way. Instead of placing the young moon so that its lighted (convex) side faced the direction of the sun—which had disappeared below the horizon, in the west—that is, in an obliquely downward direction, he shows it facing slightly upwards, thus giving the impression that the sun is still high in the sky. Moreover, the moon in this picture appears directly in the center of the afterglow, in the west, whereas its proper position is slightly to the left—for obvious reasons.

I asked that the photograph be left with me for investigation, which was done. I subsequently got in touch with the author of the photograph and induced him to explain how he came to introduce so impossible a moon. He frankly confessed that he had little knowledge of the behavior of the moon in any of its phases, and, being impressed by "The Slaggan Pass, Scotland," an aquatint by Stella Langdale—in which the crescent-moon was hanging high in the evening-sky—he simply did the best thing possible, as he thought, and copied faithfully the form and position of the young moon as it appeared in the reproduction of the picture in a recent issue of a prominent American art-journal. I have procured a copy of this publication, I can vouch for the accuracy of this entire story. I have also invited the professional artist who criticized so severely the work of erring photo-pictorialists, to ask him which, in his opinion, is the more trustworthy delineator of fair Luna—the professional painter or the pictorial photographer.

Even Dead Men Cannot Escape

DURING the recent epidemic of influenza, a well-known undertaker volunteered to help his hard-pressed fellow-workers in one of the foreign settlements of the city. His intentions were of the best; but when he was asked to arrange a funeral for a poor Polish family he was somewhat at a loss, being unfamiliar with their customs in times of bereavement. However, he proceeded with his arrangements to the evident satisfaction of the family.

After the body had been carefully laid in the casket, and only a short time before the funeral-services, he found that there were not enough chairs, and immediately went to get more. About half an hour later he returned and began to place the extra chairs about the room. As he did so, he happened to glance toward the casket. To his amazement the corpse was gone! He searched the house for members of the dead man's family. Not one could be found. In his profession of undertaker, he was not given to feelings of horror; but he was genuinely puzzled at the sudden turn of affairs. Perhaps this was one of their unusual Polish customs that he had read about. As he continued his search, he happened to glance out of a window that commanded a view of the back yard. There—propped up on both sides by his wife and daughter—leaned the dead man. In front of them, a third member of the family was focusing a camera!

It seems that among the Polish Jews, it is imperative that the family possess a picture of the deceased. In the present case, this detail had been evidently overlooked and the only way to provide one, was to photograph the corpse. There was not enough light in the room for a successful exposure, and no one possessed a flashlight-equipment, perforce, the dead man must be photographed in the open—and he was!

A. H. B.

Camera-Men on a Hike

A NUMBER of camera-men having done some special work at a military camp, were on their way to the railway station to take the train to the city. Friendly automobiles or jitneys were not available, so they were obliged to foot it. Pretty soon, they struck a long stretch of road covered with trap-rock, which they could not avoid. As they were wearing their everyday, thin-soled shoes, they found the walking difficult, if not painful. In the midst of their trying journey, one of the tripod-bearers, gifted with a sense of humor, exclaimed: "These are times that try men's soles!"

Leveling the Camera Without a Level

THE level-headed photographer of important architectural subjects will see that his camera is strictly level during exposure. This is on "the level," although, according to advice given in a recent issue in the *Amateur Photographer*, a level is not necessary. There is sure to be a vertical line in the subject (since that is why a level camera is so important); and on the ground-glass the image of this line is brought up close to one edge of the focusing-screen, so that we can make quite sure the two are parallel. The camera is then turned on the stand until the line is close to the opposite edge. If it is also parallel to this, the camera is perfectly level.

An Unprofitable Sitting

AN eminent studio-proprietor, while away on Government-work, permitted a cynical but capable amateur photographer of his acquaintance to substitute for him, with the following disastrous result:

Fair Sitter: "You wouldn't suppose that I had a son in school, would you?"

Truthful, but tactless, Photographer: "No, indeed; I had an idea that all your children must be through college by this time."

PHOTOGRAPHIC THRIFT

Photo-Thrift

AMATEUR and professional photographers are just as eager for reconstruction as those engaged in other activities. The saving of time and material is vital. PHOTO-ERA leads—more often than it follows—a worthy cause. In the present instance we believe that PHOTO-ERA is establishing another precedent. Surely, our readers must know many methods whereby a saving of time and material may be made. Now is the moment to give photographers the benefit of personal experience with regard to the saving and the economical use of plates, films, developers and accessories. If one ounce can be made to do the work of an ounce and a half—*that one half ounce is worth saving!* If the use of a 4 x 5 kit in a 5 x 7 camera may be used to advantage to save plates and developer, we will welcome such information in this column. Moreover, to show that we appreciate the efforts of PHOTO-ERA readers, we will give a six-month subscription to every contributor whose letter we consider of practical photo-saving value. We hope that readers of PHOTO-ERA will realize that this new venture depends upon them for success. It is a patriotic effort to help amateur and professional photographers save in every way possible. It has a direct bearing on reconstruction and deserves hearty support at once. Make every contribution as brief as possible—not over one hundred and fifty words. Paper and ink must be saved; and we ask contributors to bear this in mind. Now, let every reader get down to business and send his contribution not later than the twentieth of the current month.

Practical Saving-Methods

EDITOR, PHOTO-ERA:

Being much interested in your Thrift-Department, I submit the following ideas for your consideration. On many of my 5 x 7 plates I find that 4 x 6 or even postcard size sometimes makes a more pleasing print than the full 5 x 7. This is a great saving in paper and developer. Better than using the full 5 x 7 plate, however, is the plan of using a diaphragm or septum in back of camera so as to make two 3½ x 5 exposures on one plate. This is especially desirable if one does his own enlarging. I make "projection-prints" of different sizes from these small negatives just as good as from full plate-negatives.

In either contact printing or enlarging, I use test-strips to ascertain correct exposure so that I do not lose any prints from incorrect exposure. This is a saving in time and material, too, for if the exposure is wrong on print or enlargement, both time and material are lost.

Another. Discarded pyro tray-developer is an excellent water-stain for cabinet-work, especially if one develops backed plates, as I do, without first taking off the backing. Tank-developer is too thin for this.

Fraternally yours,

ALBERT M. SHAW.

THIS is the sort of "thrift-letter" that is truly helpful. Letters from practical amateur and professional photographers who *have done* or *are doing* things to save material, time and effort are valued highly. Let us have more letters like Mr. Shaw's.

A Stringless Package

DEAR MR. FRENCH:

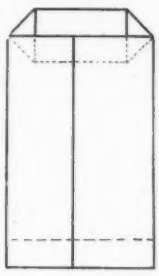
In view of the conservation of cord and adhesive, also time and energy, in doing up flat packages (photographs and magazines) for transmission by mail or express, I beg to remind you of your valuable article on this subject, published in PHOTO-ERA several years ago.

I suggest that you reprint it, together with the illustrations that show clearly how the trick may be done. The matter certainly deserves a conspicuous place in your valuable thrift-department.

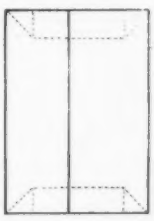
E. L. C. MORSE.

AT the request of a number of new subscribers we give herewith the method of doing up a flat package without the aid of string or an adhesive of any kind, which was described in PHOTO-ERA five years ago.

The object, which must be flat and not exceed one-fourth of an inch in thickness, say, a photograph or a magazine, is enclosed in a sheet of strong wrapping-paper. The ends which project over the contents, say from one to two inches, are folded or tucked in as follows: while the package is held firmly between the body and the edge of the counter or table, one side of



NO. 1.



NO. 2.

the end uppermost is evenly tucked inside. The dotted lines of diagram No. 1 indicate its position inside the package.

The other projecting end is folded over towards the body and the edge sharply creased. It is then tucked inside and thus brought flat and close to its fellow. The thumb and forefinger are then passed firmly along the outside edge to ensure close contact of both edges. The package is now reversed and the other end treated in exactly the same way. The dotted lines of diagram No. 2 indicate the appearance of the package with the position of the ends as they are tucked out of sight. The package is now virtually open at both ends and permits inspection by the post-office officials, in case it is sent by mail.

(*Reprinted by request from* PHOTO-ERA, *May, 1915.*)

ANSWERS TO QUERIES

M. R. R.—Enlargements may be made directly upon canvas for the use of artists, either for finishing direct or as a basis for oil-colors. The canvas must first be cleaned with a mixture of 1 ounce of liquor ammoniac (.880) and 4 ounces of methylated spirit, this being rubbed on with a clean rag or sponge until all greasiness is removed. Three solutions will then be required for sizing, sensitizing and developing.

SIZING

Distilled water	10 ounces
Ammonium bromide	35 grains
Ammonium chloride	10 grains
Potassium iodide	80 grains
Gelatine	60 grains
Dry albumen	1 ounce

Mix and warm the mixture until the gelatine is dissolved, but avoid overheating or the albumen will be coagulated.

SENSITIZING

Distilled water	6 ounces
Glacial acetic acid	¼ ounce
Silver nitrate	½ ounce

Mix and filter.

DEVELOPING

Distilled water	5 ounces
Lead acetate	5 ounces
Gallic acid	30 grains

The cleaned canvas is sponged over with the sizing-mixture as evenly as possible. When dry it is ready for sensitizing. Take the canvas into a darkroom, pour over it some of the silver sensitizing-mixture and spread evenly with a pad of absorbent cotton. Wet or dry, it is ready for exposing in the same way as bromide paper, but it is slower than most bromide papers. The developer is applied with the sponge previously used for sensitizing, the residue of silver assisting development. The canvas is finally fixed in a bath of hypo, 1 ounce of the salt to each 5 ounces of water, and then thoroughly washed. During all these processes the canvas may remain on its stretcher.

E. L. C.—Almost every subject, no matter how commonplace, has inherent beauty provided the photographer has the ability to bring it out with the aid of proper viewpoint, lighting, weather-conditions and photographic technique. Although they are rare, we have seen a few subjects that we considered hopeless.

As to your own prints, the leading lines of the path tend to carry the eye toward the distant building, yet the highest light is on an unimportant summer-house at the left. Perhaps this might have been avoided completely by swinging the camera toward the right, or by waiting for another time of day, early or late, when the unimportant architectural detail was not in direct sunlight. As the path leads rather too far to the right, swinging the camera would have been beneficial in any case.

No. 2 suggests a thin negative, yet the sunlight-effect is excellent; also the composition as a whole and the facial expression. Had the little pictures on the wall been removed it would have simplified the background and more surely concentrated the interest upon the figures. This is especially true of the lighter one. The background of No. 3 also is rather too confused with sections of furniture, which are never pleasing in a picture. Have you noticed that the exposure was made just as the boy winked, making it appear as if his eyes were closed—as they were for a fraction of a second? The highlights here are rather white and without detail. Perhaps Azo Hard X is too contrasty.

W. J.—The best enlarging-device for an Ica Atom B, it seems to us, would be either the No. O Graphic Enlarging-Camera, made by the Folmer & Schwing Division of the Eastman Kodak Company, or the Goerz Vest-Pocket Tenax Automatic Enlarger. Both employ the camera itself and its lens, and a little cabinet-work would be necessary to adapt the Atom; but nothing that your father, perhaps yourself, could not do easily.

D. D. D.—The practice of photography on the side—*i.e.*, for revenue—may be done if it does not interfere with your regular calling. In your case—clerk in a hardware-store—you speak of your love of the art, with a desire to give up your present position and to practice photography professionally. Think twice, and hard, before you give up your present place. You say that experts pronounce your technique and composition flawless; but as you say that you have no business-experience, that the photo-business is overdone, that you are getting $18 per week, are married, and twenty-two years old, we should advise you to hold on to your present position until you are cock-sure that things will not go wrong when you abandon the hardware-business in favor of professional photography.

J. M.—Green tones may be had on gaslight and bromide papers by toning with vanadium chloride. The formula is:

Ferric chloride	10 grains
Oxalic acid (sat. sol.)	1¼ ounces
Vanadium chloride	20 grains
Nitric acid	50 minims
Water to	5 ounces

Then add, stirring the while, 10 grains of potassium ferricyanide dissolved in 5 ounces of water. Tone for one or two minutes, the longer the immersion the lighter being the green. Wash for ten minutes, and fix in a solution of two ounces of hypo and 200 grains of boric acid in 10 ounces of water; wash for ten minutes.

W. M. K.—The grain of negatives, a problem which sometimes confronts the user of small cameras, like yourself, in his attempts to print by enlargement, was taken up at some length by a feature article in PHOTO-ERA for April, 1915, by E. J. Wall, F.R.P.S. He suggests the use of emulsions of medium speed, a rapid rather than a slow tank-developer and placing the negative to be enlarged in contact with opal glass, so as to reduce the scatter of light by the silver particles.

C. B.—The circular unglazed spots on your print, which is a glossy one, are due to unexpelled air-bubbles between print and ferrotype plate when squeegeeing it. They can be prevented by rolling the back of the print firmly and thoroughly; also the ferrotype plate should be flat and clean.

EVENTS OF THE MONTH

Announcements and Reports of Club and Association Meetings, Exhibitions and Conventions are solicited for publication

The Annual Pittsburgh Salon

THE Sixth Annual Pittsburgh Salon of Pictorial Photography will be held in the Department of Fine Arts of the Carnegie Institute, Pittsburgh, Pa., March 3 to 31, 1919, inclusive.

All prints submitted will be passed upon by an impartial and thoroughly competent committee of selection. Prints that possess the highest merits in artistic expression and execution will be hung.

As it has been our rule, heretofore, no picture is eligible that has been exhibited before in the United States.

Entry-blanks, containing full information and conditions of the Salon, may be obtained from Charles K. Archer, Secretary, 1412 Carnegie Building, Pittsburgh, Pa. Last day of entry, Monday, February 10, 1919.

Mr. Newman's Travel-Talks

ONE of the agreeable surprises of the current lecture-season is Mr. E. M. Newman's series of illustrated travel-talks on Wartime Europe. Not only are his narratives engrossing, but founded on absolutely indubitable facts, which facts in themselves are so stirring in their graphic realism, that no elaboration is necessary. The motion-pictures, made by Mr. Newman and his skilful assistant, Chas. I. Davis, by special permission of the U. S. Government, are of extraordinary interest and technical excellence. Many of the finest reels were made on the firing-line and in the trenches, in the midst of actual fighting. His "Wartime France" contains a number of motion-picture scenes which, for artistic composition and lighting, are simply remarkable. The picture of a couple of peasant-women tossing hay seemed like a painting by Le Breton, only that it was animated. Another, a barn-yard filled with pigs and poultry, looked as if executed by a master-painter, only the animals were in motion. Mr. Newman's diction, voice and delivery are on a par with his best pictures—exemplary.

As Mr. Newman intends to give his travel-talks in Chicago and other cities in the middle-west, very soon, we earnestly advise PHOTO-ERA readers to arrange to attend them, especially "Paris, 1918," "Wartime France," and "Wartime Italy." These have been so well received in Boston, that they are to be repeated by special request. Lovers of good pictures, be on the lookout!

William Ludlum as Musical Composer

AMONG our eminently talented subscribers is William Ludlum, of Mount Vernon, N.Y. Already known to PHOTO-ERA readers as a photographer, draftsman, poet and writer, he now appears as a musical composer of no mean ability, having written recently a patriotic song entitled, "When the Boys Come Back." The music is in march tempo, melodious, stirring and timely, words and music both by Mr. Ludlum. The piece, sold at 30 cents, is published by the Tullar-Meredith Co., 265 West 36th St., New York City.

Air-Bubbles in Camera-Lenses

EDITOR OF PHOTO-ERA:

WILL you please inform your contributors that air-bubbles in a lens are not necessarily a mark of superlative quality. See page 239, November PHOTO-ERA. A wart on a man's face does not bespeak nobility of character, just because Abraham Lincoln had one. Some kinds of glass cannot be made without bubbles, but the presence of bubbles does not guarantee the excellence of glass in general, nor even prove that particular glasses have been used in a given lens; just as the presence of a fish in the milk-can does not of itself prove that the can has been swimming in the river.

Very sincerely yours,

LOUIS DERR.

WE subscribe to all that this eminent physicist has stated; but, we venture to ask, what would he do as sales-manager of a large and reputable lens-manufacturer—as Mr. Dawes was, before he died, last October—when lenses of his firm's make were being constantly returned to him as unsatisfactory because of the numerous bubbles that they contained? Explanations, arguments and exchange of lenses were of no avail; so in sheer desperation Mr. Dawes made the statement, in an elementary talk on photographic lenses before the photographers' convention, in Springfield, last August—which talk was carefully revised and printed in November PHOTO-ERA—that bubbles in lenses constituted a proof of high excellence. He was right insofar as lenses made of inferior optical glass do not contain bubbles in large numbers—certainly not comparable with those in high-grade anastigmats. As a matter of fact, Schott & Genossen, the exclusive makers of optical glass of certain refractive indices which enter into the construction of certain well-known types of anastigmats, state in their catalogs that innumerable small bubbles are an indication of optical superiority.—[EDITOR.]

Picturing a Triumph of the U. S. Navy

IN response to inquiries for copies of the now famous historical picture, "We Are Ready Now!" by F. J. Mortimer, F.R.P.S., published in September PHOTO-ERA, we furnish carefully prepared engraver's proofs 10 x 12 inches and printed in artistic brown color until the limited supply is exhausted. The price is $1.00 each, mailed safely packed and postpaid to any part of the United States.

British Lenses

SIR,—We hope the British optical trade will do something more than the co-operative advertising suggested by your correspondent. Their position is not comparable with that of the magneto-manufacturers of England.

A car is bought with a magneto, and, we imagine, the buyer rarely changes it. Most cameras are sold with single and R. R. lenses, and it is the business of the wideawake dealer to persuade his customers

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either to buy a camera fitted with an anastigmat or to replace the less efficient lens with such a lens.

Here we look for the co-operation of the optical trade. The possibilities are enormous. Tens of thousands of Ensignettes and Vest Pocket Kodaks were bought early in the war, and there is little doubt that most of the buyers will keep up their photography after the war.

It is too often assumed that the British optical trade has only to think of German competition. Such is not the case. As soon as the supply of German and British anastigmats ceased we were offered French and American lenses in their place. We rather think that both will be imported in large quantities after the war.

The optical trade, for some reason, has never fully realized the value of publicity. Possibly it is because the firms in it are all old-established. The most vigorous advertisers, and, we need hardly add, the most successful businesses, in other branches of the photographic trade are, comparatively, of recent growth.

Wellington, Illingworth, and Rajar, for example, all make excellent goods, but who will deny that a great part of their success has been obtained by their active publicity-methods?

To what can we attribute the steady decline in the use of platinotype and carbon prior to the war? Possibly the greater simplicity of the newer processes, as is generally stated: but we think that the real explanation lies in the fact that they were not in the hands of some of the younger firms of the type we have already mentioned.

Dallmeyer, Ross, Beck, and Taylor, Taylor and Hobson are all honored names among us who are old in photography, but there are thousands of photographers to-day to whom the names mean little or nothing. "Good wine needs no bush" must cease to be their motto.

Yours, etc.,

PHOTOGRAPHIC DEALERS.

A Letter in *The Amateur Photographer and Photography.*

Missed Opportunities

DURING the period of wild enthusiasm manifested throughout the country over the armistice, which spelled virtual peace, the motion-picture houses, everywhere, caught the prevailing spirit of patriotism and expressed it by honoring the Allied nations in the form of pictures and appropriate music. For instance, in one prominent theater the customary singing and screen-display of the Star-Spangled Banner was followed by a screen-picture of a flag that was colored so poorly that nobody recognized it until the orchestra began to play the Marseillaise. The blue was represented by a pale gray—the white fortunately being left blank—and the red by a deep, dirty brown. The Italian emblem was another disgraceful daub and looked familiar to only a few in the audience on account of the white cross in the center, but the accompanying music, though played well, meant nothing to most of the auditors. And the flag of Belgium—as if that poor country had not suffered enough already! No one would have thought that the national colors were black, yellow and red. There was no suggestion, whatever, of such things in the daring "bluff" projected on the screen, and the unfamiliar, though thrilling strains that followed provoked no applause.

The management's intended courtesy to the main Allied nations proved a failure, which would not have been the case had some truthfully colored slides been provided. Here, then, was an opportunity—and it may not be too late—for some champions of the slogan "How to make my camera pay" to prepare a series of good, colored lantern-slides of the Allied flags and supply them to the many motion-picture theaters. It ought to be a profitable venture, and there are good available colors on the market.

A Word of Appreciation

MADISON, WISCONSIN,
October 15, 1918.

Mr. W. A. FRENCH,
EDITOR, PHOTO-ERA,
BOSTON, MASS.

Dear Sir:—

Enclosed herewith find two dollars for another year's subscription to PHOTO-ERA.

I enjoy the magazine for its general make-up, fine illustrations and well-selected topical material, and relish keenly its editorial excellence. *All told, it is a book of individuality.*

With best wishes,
Very truly yours,
E. J. KOESTER.

G. W. Harris with the President

GEO. W. HARRIS, of Harris & Ewing, portrait-photographers of Washington, D.C., is the fortunate man that has been selected to accompany the presidential party to Europe. The American people may rest assured that our president will be pictured skilfully at the peace-table (provided that he will sit there), receiving ovations in London, Paris, Rome and wherever else he may be in evidence. Thus, for the benefit of present and future generations will be recorded scenes that are associated intimately with the treaty of peace concluding the greatest war of all history; and identified, personally and eminently, with these priceless photographs, will be an American photographer—George W. Harris, of Washington, D.C.

Sale of Halftones Published in Photo-Era

WITH the approach of the holiday-season, there will be considerable activity among photo-pictorialists in preparing prints for Christmas gifts and other purposes. Many amateurs have been printing some of their favorite subjects on postcards. With this end in view, several workers whose pictures have been reproduced in PHOTO-ERA have procured from us the original halftone-engravings which they are utilizing, advantageously, in many ways.

One amateur, of our acquaintance, is now using the halftone of one of his successful pictures published in PHOTO-ERA, several years ago, for the purpose of decorating his stationery (full-sized letter-heads) together with the legend, "Was awarded second prize by PHOTO-ERA, THE AMERICAN JOURNAL OF PHOTOGRAPHY."

If the halftone block is the size of a postcard, or even smaller, it can be used by a good printer in the preparation of picture-postcards. If the block should be a little larger than 3¼ x 5½ (size of a postcard), it can be easily cut down to the required size.

Any workers whose pictures have appeared in PHOTO-ERA during the last five years, or longer, may have these perfectly good halftone blocks at *one-half the actual cost* to us, provided they will procure them from us without delay.

"Photo-Era" in France

After one of his travel-talks in Symphony Hall, Boston, Mr. E. M. Newman told the Publisher that when he visited Vincennes, near Paris, last summer, he noticed in the Laboratory of the U. S. Signal Corps the photographic literature consulted by the aërial photographers. Looking it over carefully, he discovered that it contained about six successive issues of but one periodical, and that one periodical was Photo-Era!

Sample Copies of Photo-Era

In the past, we have always been glad to send sample copies of Photo-Era in response to requests. To-day, conditions over which we have no control, have compelled us to discontinue this practice. In compliance with governmental regulations with regard to paper-conservation, we print enough copies of Photo-Era to meet the demands of paid subscribers, photo-dealers, advertisers, news-agencies, and no more.

Requests for sample copies cannot be honored unless they are accompanied by twenty cents in stamps. Perfect copies of Photo-Era will be sent promptly, postpaid, in response to all such requests.

"Flashlight for Portraiture"

Thomas Edward Halldorson

At this time when the saving of time and material is so necessary for the photographer, the subject of flashlight takes on an added importance. When you waste plates by incorrect exposure due to changing daylight or when you waste both time and plates on account of re-sittings made necessary by late-afternoon light shortage, you are not only losing money for yourself but you are hindering the cause of your country by wasting its resources. Perhaps at no other time has it been so important for the photographer to put the spirit of the subject into his pictures as it is at the present time, when most of these pictures are being sent overseas to bring courage and cheer from the home folks to our boys over there. It is no exaggeration to say that this subject on this account has a direct bearing upon the winning of the war.

If you fail to get as good results with flashlight as you do with daylight, something is wrong with your manipulation or your equipment. We demand that the flashlight-portrait be made to stand on its own merits as against pictures made with any other kind of light and if it is not as good we would not recommend its use for portraiture at all.

In the matter of speed, flashlight has a remarkable advantage over daylight for portrait-purposes. Expression is invariably a fleeting one and does not "stay put." You have to lure it forth, as it were, and catch it on the instant or it is gone, perhaps not to return again during the sitting. Is it necessary to argue that the high-speed flashlight-exposure, measuring one-seventieth of a second, is much superior for this purpose over the time-exposure of daylight? You may say that you are very successful in getting expressions when using this slower medium of daylight, but if this is so how much more successful could you be with this high-speed light and how much more easily could you get your results.

To illustrate this we have but to take the case of the motion-picture. Here we have as close a representation of life as it is possible to get in pictures and this is obtained entirely by high-speed exposure.

If the operator is to do his best in this matter of obtaining good expression, he must be free to devote his main attention to this factor of the operation and not be constantly hampered by the necessity of having the subject hold the expression through a period of time. With flashlight it is simply a matter of drawing out the expression and snapping it when it appears. As for children the advantage is so obvious that a large number of the most progressive photographers never think of using other than flashlight when photographing them.

But if the matter of fast exposure is important, the matter of full and correct exposure comes next in rank of importance. If I were to name the greatest single cause of failure of photographers the country over, I think I would say it was under-exposure. Many men habitually under-expose, thinking it the only way they can get speed enough to catch expression and avoid moves. This is so true in home-portraiture that one could almost say without fear of contradiction that all those who do not use flashlight in their work accept under-exposure as a necessary accompaniment to this kind of portraiture. The only proper test for full exposure is to show detail in the deepest shadows and to do this requires considerable more time and light than is available under the average conditions with daylight. Under-exposure leads to many gray defects in the picture, the most noticeable perhaps of which is the harsh contrast that such pictures show, to say nothing of the loss of detail in the shadows. Another difficulty arising from under-exposure is the prominence that it gives to flesh-markings such as freckles. Few understand that to get enough exposure into these brown spots a considerable more time must be given and unless this is done the retouching will be much more difficult and a good print from such a negative is out of the question under any circumstances.

With flashlight this great trouble of under-exposure is entirely eliminated, and what is more, correct exposure is almost automatic and therefore absolutely certain when one has once determined from a little experience what the correct exposure should be. Three factors determine exposure in flashlight, *i.e.*, the amount of powder, the stop of lens, and the distance of lamp away from sitter. With these the same at any two occasions, the results will be the same. With daylight the amount of light varies from hour to hour and from day to day and thus renders proper exposure a matter of guesswork that often trips up the most experienced operators.

When we come to the quality of flashlight as determined by the results obtained from it in pictures, we find that many think it has some special quality which gives to flashlight-pictures a disagreeable appearance. This is perhaps the error most frequently met with and the one hardest to combat of all the many errors that have gained currency about flashlight. That this is an absolute fallacy has only to be explained scientifically to be shown so. Obviously all light is the same for photographic purposes except in actinic power and orthochromatic value. Its very speed proves the wonderful actinic power of flashlight and in the matter of rendering color-shades correctly it is perhaps every bit as good as daylight and many claim it is better. So then if peculiar results are obtained with it, the cause must be due to the way it is handled and not to any inherent quality of the light itself.

To illustrate this best we have but to take sunlight and see what various effects it will produce in the picture when taken in its various stages from the case where it is used directly on a clear day to where it is used as modified by the skylight in the studio. Direct

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sunlight gives harsh, sharp shadows as everyone who has used a kodak knows. Let a cloud pass over the sun and you will get a soft, even light over the whole subject. From this you go into the studio and use the sunlight diffused as with the cloud outdoors, but with the added advantage of having it all come from one direction and from a certain position relative to the sitter, and your picture will give the lighting result you seek in a portrait. Flashlight is no different in this respect from the sun except that for the cloud you use a screen and for the skylight a scientifically constructed lamp. There is no magic to it except that you use certain principles in connection with its control that are not unlike those used with daylight and that you use the proper equipment in the form of a modern flashlamp.—(*Lecture before the Missouri Valley Convention.*)

A Photographer in a Flanders Cellar

At last Monsieur l'Apothicaire has had to shut up shop. For almost four years he has braved bombardments by land and air, always managing to mend his roof or repair his shattered door. His windows have been paneless for a great many months. The last fury of shells has done the worst. Not only has the roof gone and the door and windows; the little shop stands looking out across the Place a pyramid of bricks and mortar and broken bottles. From its pitiable mound it faces what used to be one of the sights of the old town—a row of fine Spanish houses dating from the days of the Inquisition. They, too, after having withstood the weight of turbulent years, have bent their proud heads and now lie humbled—a mass of shattered stone.

Monsieur l'Apothicaire was a man of distinction. Although by trade a mixer of drugs, he was by inclination a photographer, and it is doubtful whether there could be seen a finer collection of photographs depicting modern war on civilians than that which, until a few days ago, stared across the silent Place from its glassless case in front of the little shop. They pictured bursting shells falling among a clump of cottages, crumbling cathedrals, bombs bursting on domestic barges which dot the Flemish canals; royalty giving a sustaining send-off to refugees entraining for strange lands; royalty at home in a modest villa among the sand-dunes; the subterranean dwelling-place of a colony of nuns, which like the small shop in the Place no longer exists. A strange photographic melange of interest, gruesomeness and horror caused by the employment of modern science.

He was a picturesque figure. He used to go about on a bicycle, his pale, cadaverous face, with its black beard, appearing even more pale above the folds of the long ebony cloak which hung down from his stooping shoulders. A silent man, with deep-set, introspective eyes. For the past three years, his experiments in chemistry and photography have taken place in the atom of a cellar under the tiny shop. There, in that stuffy laboratory, lighted by a single flickering candle, Monsieur played with his test-tubes, and at length found a solution which he offered to his Government as a counter-irritant against the fumes of gas. It was accepted. From the acceptance sprang a gas-mask factory, which gave employment to some hundreds of refugees huddled there behind the line of fire. This, too, has had to be evacuated. . . .

The trains which snort their laborious way toward the south of France are daily carrying off the peasants who through four years of war have clung stubbornly to their cabbage and potato plots, and the refugees who endured a wretched existence in shacks, lofts and hovels, rather than leave their own beloved land.

With them has departed Monsieur l'Apothicaire, with his bicycle and his long raven cloak, his camera and collection of photographs, which will ever remain a tangible testimony to the hideousness of modern war.

Margaret Bell, in the *Daily Express.*

Notice to Librarians

Many librarians and subscribers, desiring to bind the first volume of the year of Photo-Era, and not finding the index for same in the June issue, as formerly, do not seem to be aware that since 1910 the index for the entire year—two volumes of six issues each—has been, and is now, published exclusively in the December issue of each year.

A One-Solution Intensifier

According to the chemist of the Rajar Limited, the mercuric-iodide one-solution intensifier should find a place on every busy photographer's shelf. It will readily give considerably increased contrast to a thin negative, is particularly safe to use, and its advantages are as follows:

1. A ready-at-hand solution that keeps well, and can be used over and over again.
2. If the negative contains traces of hypo, no harm will be done.
3. Can be used locally to intensify parts of a negative.
4. Intensification can be removed, if desired, by simply placing the negative in the fixing-bath.
5. Local reduction is easy. Parts of the intensified image can be painted over with a brush charged with hypo-solution.
6. It is reasonably permanent and cannot give stains.
7. Can be used to give "sparkle" to lantern-slides.

To make up the solution, take say 100 grains of mercuric chloride, crush and place in a small linen bag. Suspend this in a 20-ounce wide-mouth bottle near the neck, and fill the bottle with hot water. When dissolved (it will take some time), take out the bag and burn it. Now add a few crystals of potassium iodide gradually, shaking the bottle all the time. The solution assumes an opaque salmon color, and the iodide must continue to be added cautiously until the solution becomes fairly clear and transparent, but with still a trace of red color left. Add no more iodide, but drop in a small crystal of hypo about the size of a pea and the intensifier is ready to use.

The negative, after the usual fixing and washing, is immersed in this bath for a few minutes, washed and dried. To ensure permanence, the negative—after being intensified and washed—can be placed in any developer for a few minutes, washed and dried, but for ordinary work this is not absolutely necessary. The negative may become yellow in time, but this does not affect its printing-quality, and it is possible almost to discharge this color without altering the contrast by placing the plate in a very weak solution of hypo.

Our friends, the photo-finishers, will find the solution useful for the thin and under-exposed negatives. Commercial photographers will find it useful for strengthening parts of interior negatives, and a negative of a group or a full-length portrait, made by electric or flash light, can have the weak foreground improved by using the intensifier in a tilted dish.

LONDON LETTER

CARINE AND WILL CADBY

We were bound to the Royal Photographic Society's Exhibition. What used to be the short journey to town had been occupied with reading of the Italian successes, and the disintegration of the Austro-Hungarian Empire. Big thoughts, induced by the mighty world-happenings, were naturally predominant in our minds, and it seemed somewhat of an anti-climax as we turned into the rooms of the Royal Photographic Society in Russell Square. Perhaps, this feeling was intensified because we came first to the Pictorial Section. Whether any pictorial collection would have appeared adequate at that moment, we cannot say; but, surely, this particular one failed entirely to hold our attention, and, although later, we gave it more careful inspection, it still seemed, and we are afraid we must confess, really was, very uninspiring as a first-class exhibition. No doubt, there is some good work to be found, notably a few exceptional landscapes; but, like last year—only, alas, more so—there is such a big proportion hung that is certainly not worthy: and it was with real relief that we turned to a room devoted to the photographic side of radiography. These rather large-sized negatives were shown by reflected light, and included X-ray pictures of many wounded limbs. Here, at least, we were in touch with reality—the sad reality of the war, and, being as we are, quite ignorant of this particular science, we could only wonder at the marvelous building up and repairing of bones carried out by the surgeon that was depicted so clearly and boldly by the X-ray negative, in spite of bandages and living flesh that hid the skilful work of the doctors from all but the uncannily, far-seeing X-rays.

But where it seems that this exhibition is strongest, is in Section III (Scientific and Technical). Some of the enlargements in this section of microscopic subjects, many with an enormous degree of amplification, are as strong, sharp and real as direct prints. This was particularly noticeable in the photograph of an alarmingly sized flea, and one could only be thankful that this evil monster, nearly a foot tall, with its powerful muscles and punishing proboscis, does not really strut the stage of life "to scale"! The pseudo tracheal tubes of the tongue of a blow-fly are exposed to sight in a wonderful set of photo-micrographs by Dr. Rodman, who is responsible also for "A Plague-Infected Flea of the European Rat" besides other wonderful and minute subjects. But the singular thing about many of these photo-micrographs is that they often possess real beauty of design, and are admirable to look at, sometimes, for their mathematical, and often for their decorative, lines, and quite apart and distinct from their legitimate interest, which of course would at once attract the scientific photographer. It must be confessed that we, sworn devotees of pictorial photography, were nevertheless far more interested in some of the beautiful photo-micrographic designs than in anything to be found in the Pictorial Section proper. The reason for this, no doubt, was that many of the designs, as designs, were new to us; they gave one a mild sensation as when one meets a fresh idea, a cheering, invigorating twinge, that we looked for in vain among the pictorials.

The collection of official war-photographs (lent by the Ministry of Information) adds considerably to the interest of the show. They are, for the most part, as good as, and no better than, the many war-photographs to which we have become accustomed. But beyond this, a few seemed to possess an intimacy of view and handling that is unusual. They had all the charm of apparent snapshots, and yet were crammed full of life and movement that certainly showed its best side to the camera in a way that snapshots can hardly ever secure; and yet there was not the slightest suggestion of posing, and we left this group of forty-six prints with the feeling that we had been really allowed a vivid glimpse into the life and surroundings of the veteran troops.

The Imperial Dry-Plate Company, one of our most energetic and important makers of photographic plates, has issued its regular handbook for the year. The universal paper-shortage is reflected in its reduced number of pages, and the illustrations are not so numerous as in former years. The chief feature is a double-page chart setting forth, in simple language and under different headings, the signs of under, over, and correct exposure. This, used in conjunction with the page of various grades of negatives on transparent paper—issued in last year's Handbook—forms a very complete guide to correct negative-making. These efforts of manufacturers are all in the right direction, and might be followed with advantage by other makers of complicated photographic materials; for none know better than the manufacturers, the possibilities that lie dormant in their products, and they surely should be the safest guides as to the attainment of the best technical results. It remains for the skilful and experienced photographer to modify them to suit his own particular requirements.

The Gerard Film ("My Four Years in Germany") is drawing big crowds in London, or rather let us use the past tense and say, was; for since the serious outbreak of Influenza, the public has not been very keen on crowds.

We have not yet seen the much-talked-of Propaganda film by Hall Caine, but do not very well see how anything can out-propaganda Mr. Gerard.

Just now, when the details of the inhuman and ungenerous treatment of British prisoners, in Germany, have been made public, it was natural that intense interest should be shown in that portion of the film that deals with this subject. Knowing how absolutely true to life these scenes were, we felt that they were almost too painful and moving to be witnessed calmly. On the occasion we were there, some members of the audience were too affected to remain through these prison-scenes. We were told by an official that one of them was a woman whose son had been shot while helping a fellow-prisoner to escape.

For our part, being photographers, we tried to suppress our emotions by concentrating our thoughts on the technical interests of the film. One of these gruesome scenes shows prisoners being attacked by dogs and we noticed a fierce-looking animal wagging his tail. The film was immediately switched off, probably before most persons had noticed it. But to us it brought comfort, and we let our harrowed minds dwell on the fact, that, at least, that particular dog was only having a romp though it was fierce and rough enough to give the illusion of savagery.

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Arranging Allied Flags

EVER since the United States entered the war and our relations with the Allied nations assumed the character of true and intimate friendship—on account of the supreme sacrifices and suffering endured by the Allied soldiers, indiscriminately—we have viewed with increasing interest the many photographs that depict beautiful displays of Allied flags including the "Stars and Stripes." Being asked to express an opinion regarding the propriety in arranging them, it is our belief that courtesy to France, the greatest sufferer in the present war, should be shown on all possible occasions. For instance, in grouping the flags of the Allied nations, would anyone actuated by generous, chivalrous impulses, do otherwise than place the emblem of France in the center and those of Belgium and Britain at the sides, with "Old Glory" deferentially subordinated?

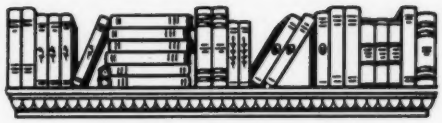
How often is the spirit of patriotism expressed by an ostentatious display of three flags, those of France, Great Britain and America, but the "Stars and Stripes" occupying the most prominent place. Those who are responsible for such an arrangement, which is thoughtless, if not discourteous, particularly with so many French heroes temporarily in our midst, ought to remember that the American soldiers at the front, and those who are occupying enemy-territory, are second to none in gallantry, courtesy and forbearance, and those who remain at home cannot afford to manifest a lesser degree of true chivalry towards beloved France and her sons who are within our gates.

Our attention has been called to a remarkably artistic and judicious arrangement of Allied flags in one of the windows of the Standard Sanitary Manufacturing Company, of Boston. In the center is placed the tricolor of France, and, alternating and in the order named, the flags of Belgium, Britain, Italy, Serbia, Roumania, Portugal, Canada, Australia, India, Rhodesia, New Zealand and—America. The Copley-Plaza Hotel flies three immense flags, widely apart, high above the structure—France in the center, Great Britain at the right and "Old Glory" at the left. Otis Clapp & Son, Inc. display a similar grouping of Allied flags, save that the place of honor is given to Belgium. Any PHOTO-ERA reader, noting a like courtesy extended to an Allied nation, will kindly report it to the Publisher and receive his sincere thanks.

An Ingenious Darkroom-Lamp

OUR overseas cotemporary, the *Photo-Revue*, contains a description of a very ingenious form of electric lamp for the darkroom, in which one glass-cell acts both as battery and color-screen. The wooden lid of the cell carries, projecting downwards from it, a zinc and a carbon-rod, as well as a test-tube-shaped vessel, in which is a small 2-volt electric lamp, connected up with the two rods. The liquid contents of the glass-cell consist of water to which are added potassium bichromate, sulphuric acid, and fuchsine, in the order given. The acid must be added slowly, to prevent any violent reaction, which might scatter the solution. To light the lamp, all that is necessary is to lower the lid, so that the tube containing the lamp, and the carbon and zinc-rods are immersed in the non-actinic liquid. When the battery is exhausted, and the solution is to be renewed, the vessel, after being emptied out, is left for some hours with hydrochloric acid to clean the glass.

THERE are some merchants that are so supercautious that they refrain from trying out a new idea lest it be copied by their competitors.—*The Spatula.*



BOOK-REVIEWS

Books reviewed in this magazine, or any others our readers may desire, will be furnished by us at the lowest market-prices. Send for our list of approved books.

HOW MOTION-PICTURES ARE MADE. By Homer Croy. Profusely illustrated. 366 pages. Large octavo. Price, $4.00. New York, U. S. A.: Harper & Brothers.

"How Motion-Pictures Are Made" is the most pretentious book on the subject that has yet appeared. The author has covered the ground thoroughly. He describes the history of kinematography, beginning with the "Wheel of Life," a toy used to simulate the successive movements of animals in action, followed by similar devices—the motorscope, the vibroscope and the zoëtrope. Then came the really first step forward in the science—by the indefatigable Edward Muybridge, in 1878—the making and projection of animals in motion by a battery of twenty-four cameras, each exposure showing an advance in motion, followed by a perfection of the method, by Dr. E. J. Marey. Then came Thomas Edison, with his Kinetoscope (a peep-hole machine) in 1893, aided by George Eastman with his flexible film; but in 1894, C. Francis Jenkins, an American, showed motion-pictures for the first time in the form that we know them. Improvements in projection-apparatus by Edison, and by Lumière, in France, followed quickly, until we came to know motion-pictures in their present-day perfection. Homer Croy then takes the reader behind the scenes and not only shows him how an intricate photo-play is prepared, but reveals to him the many secrets, mysteries and stunts that startle a motion-picture audience. Thus, he explains how a man lying in the street has both his legs cut off—and replaced; the self-writing pen; self-spelling words; a person jumping or falling from a great height; a person jumping from the ground to the top of a tree; an actress shedding tears; flowers and plants in the act of growing; animated cartoons; trick-pictures; pictures of the present war; spirit-photographs; pictures in natural colors; thrilling railroad and automobile accidents, talking-pictures, and subaqueous motion-pictures.

The book is exceedingly well written—exemplary English—in a clear and fluent style, popular rather than technical, so that it makes an irresistible appeal to the large public interested in the preparation of motion-pictures as they appear on the screen. The typography and illustrations are above criticism, and the book should be owned by every photographer and lover of motion-pictures.

Hold your Liberty Bonds

THERE is a notion very prevalent in the United States that when the American soldiers return home they are going to feel very kindly toward the subscribers to the Liberty Loans. Liberty Bonds are incontrovertible evidence that the purchaser has supported his Government, has supported our soldiers abroad in this war. Keep that evidence in your possession until the boys come home.

RECENT PHOTO-PATENTS

Reported by NORMAN T. WHITAKER

THE following patents are reported expressly for the PHOTO-ERA magazine from the patent-law offices of Norman T. Whitaker, Whitaker Building, Washington, D. C., from whom copies of any one of the patents may be obtained by sending fifteen cents in stamps.

Catch for Camera-Backs, patent, number 1,278,323, granted to William F. Folmer, Rochester, N. Y., Assignor to Eastman Kodak Company, a Corporation of New York.

1,278,526. Projector and Camera-Color Control. Charles Webelmesser and William Wenderhold, New York, N. Y., Assignors to Polychromatic Film-Corporation, a Corporation of New York.

Frederic Eugene Ives of Philadelphia, Pa., invented Color-Photograph or Film and Method of Producing Same, patent, number 1,278,668.

Photographic Camera, patent, number 1,278,692, granted to Einar Leschbrandt of Philadelphia, Pa.

Henry T. Sublisky of Cedar Rapids, Ia., has just been granted patent, number 1,279,607, a Film-Holder.

A Film-Carrier patent, number 1,279,762, has been granted to Earl W. Rossman and Lester S. London, New York, N. Y., Assignors of one-fifth to Monte London, New York.

Philip W. Tierney of Rochester, N. Y., has been granted patent, number 1,279,788, Assignor to Eastman Kodak Company, a Corporation of New York.

Joseph Goddard of Rochester, N. Y., has invented new Camera-Mounting, patent, number 1,280,013, Assignor to Seneca Camera Manufacturing Company of Rochester, N. Y.

Reuben Newman, of New York, N. Y., has invented a Means for Developing Films, patent, number 1,277,462.

1,277,461, Fan-Attachment for Cameras has been granted to Frank Z. Murazen of Dubois, Idaho.

Frederick N. Thimble of Long Island City, N. Y., has been granted patent, number 1,277,665 on Film-Box.

Andrew Henry Rockier of Boise, Idaho, has been granted patent, number 1,277,756 on a Camera.

John Frederic Haworth of Edgeworth, Pa., has been granted patent, number 1,277,919 on Camera.

An indicator for Cameras, patent, number 1,278,-080 has been granted to Henry Joseph Kubiak of Philadelphia, Pa.

1,280,240, Photographic Shutter invented by Rudolph Klein and Theodor Brueck of Rochester, N. Y., Assignors to Ilex Optical Company, a Corporation in Rochester, N. Y.

Automatic Photographing Apparatus has been invented by Arthur Latter of New York, N. Y., patent, number 1,280,252.

Patent, number 1,280,308 on Photographic Frame for Printing on Metal has been invented by Frank C. Sampson, Chicago, Ill.

Patent, number 1,282,177, Method of and Apparatus for Making Panoramic Pictures has been granted to George Stevens Blankenhorn, Milwaukee, Wis.

A Photographic Camera patent, number 1,282,373, has been granted to Clarence P. Browning, Brooklyn, N. Y.

A Photographic Shutter has been invented and patented by Rudolph Klein and Theodor Brueck, Rochester, N. Y., Assignors to Ilex Optical Company, Rochester, a Corporation. Patent number is 1,280,240.

Frank C. Sampson, Chicago, Ill., has received patent, number 1,280,308, a Photographic Frame for Printing on Metal.

A Film-Mask for Cameras patent, number 1,280,958, has been issued to Richard Stuart Burdette of San Antonio, Texas.

Julius Henry Stean of Worcester, Mass., has been granted patent, number 1,281,092, a Photographic Printing-Device.

Patent, number 1,281,175, an Automatic Camera-Locking Device has been issued to Alexander F. Landefeld of Mansfield, Ohio.

Patent, number 1,282,331, a Vignette, has been issued to Alfonso J. B. Vera, Chicago, Ill. Assignor of one-half to Charles Kemler, Chicago.

Frederick B. Thompson of Chicago, Ill., has invented and received patent, number 1,281,711, a Photographic Film-Treating Apparatus.

Patent, number 1,281,714, a Multicolor-Film has been issued to John Edward Thornton, West Hampstead, London, England, Assignor to John Orvden O'Brien, Manchester, England.

Gertrude H. Parish of St. Paul, Minn., has been granted patent, number 1,281,998, a Camera.

Development Papers—An Experience

DURING the war there is an almost universal use of development-papers, and, naturally, photographers are eager to glean all the information that they can about them with a view to obtaining the best results, which fact tempts us to state the following small experience of our own. A number of exposed prints were to be developed. The first two came up splendidly and were of first-class quality, but the next began to stain before the image was strong enough to enable the print to be removed from the solution, though the latter was not nearly exhausted or showed any slowness. However, the solution was thrown away and a fresh lot taken, which worked very well with the first print; but with the next, the same staining-action occurred as in the preceding case. Happening to notice which prints were spoiled and noticing that they were from the same negative and upon the same grade of paper, we were enabled to hit upon the cause of the trouble. Two well-known grades of paper were being used, *each by a different maker*, and it was when the spoiled print was placed in the solution *after* the print on the other grade of paper that the stains occurred. Apparently, something in the composition of one maker's paper brought about the effect described when the following print was upon a different paper. A careful test with the two papers, again using fresh solution, showed exactly the same result as in the previous cases, though when developed in separate solutions each paper gave first-class prints. Possibly, owing to wartime conditions, emulsions have had to be altered or modified in some degree. At any rate, photographers will do well to be on their guard in respect to possibilities of this kind.—*British Journal.*

WITH THE TRADE

Restrictions Modified on Cooper Hewitt Lamps

THE Cooper Hewitt Electric Company, Hoboken, New Jersey, informs us that soon after the preparation of its one-half page advertisement in the December 1918 PHOTO-ERA, the Government modified the prevailing restrictions because of the armistice. Unfortunately, it was too late to make the necessary corrections in the advertisement for that issue. Therefore, we call special attention to the fact that orders for Cooper Hewitt lamps can now be accepted as heretofore.

Is This True?

From the Berlin *Tageblatt*, April 26, 1918.

"IF the despised Yankee nation think they are going to win the war and force Germans out of foreign markets there is nothing to indicate this sentiment in their local and foreign advertising. Many of their advertising-agencies have closed their doors through lack of patronage. Their much-talked-of captains of industry have cancelled advertising-contracts everywhere. Germany and German merchants have increased their advertising-space in neutral markets and at home. It pays to advertise in war as well as in peace. The far-seeing merchant never stops advertising."

Stopping Advertising

GOOD will, a merchant's greatest asset, might be compared to a pool, or stream of water, which if not constantly replenished will disappear gradually and entirely. By good will we do not mean only the kindly feeling his neighbors may have for a photo-dealer, but the force that would keep his customers coming to his store day after day even if he himself some morning should drop through a knothole in the floor and never again be seen. The one great creator of this force is advertising, not necessarily newspaper-publicity, alone, but advertising in some form or another. Some of the soap- and food-manufacturers have spent millions of dollars in cold cash in acquiring good will through newspapers and magazines and have found that, unless the stream of dollars is kept flowing uninterruptedly, their good will evaporates and their sales fall off with a rapidity that betokens disaster. What is true of the big business, is true of the photo-supply store, although its proprietor may not realize it. If he stops advertising—that is, making his store and his goods better known—his good will loses in value and his business begins to evaporate.—*The Spatula.*

A Tip to the Trade

TO THE EDITOR OF PHOTO-ERA:

Sir:

In an article in the December issue, under the heading, "Begin Photographic Reconstruction Now," the point is made that our American camera-manufacturers must do better than they have in the past in order to hold the market against British competition. This is worth thinking about.

Of course, no man with self-respect would now buy any German goods, however cheap or excellent. But Americans would be inclined to buy British and French goods, especially if they were a little better or cheaper than American. That attitude of mind is merely sentiment; but sentiment is worth much in business and should be reckoned with.

So far as roll-film cameras are concerned, the American manufacturer need fear nothing—ours are indisputably the best. As regards plate-cameras, we are somewhat behind in the race—not very much, but perceptibly so with a keen buyer. As a people, we have not yet learned the advantages of a plate-camera: ability to see the picture on the ground-glass before making it; use of plates of various speeds for different subjects; possibility of using orthochromatic or panchromatic plates or ordinary plates, as one finds occasion; adaptability of plates to intensification and reduction-processes, etc.

But as a people, we are now coming to appreciate the advantage of a small camera and, before long, we shall learn to appreciate the advantage of the small plate-camera. The latter undoubtedly is the coming camera, that is, I mean for all serious workers—all those who have gone beyond the indiscriminate snapshot-stage of photographic evolution.

Now, if any one will take the trouble to compare British camera-manufacturers' catalogs with those of American manufacturers, he cannot fail to notice that the British are strong on enlargers, whereas the Americans are woefully weak.

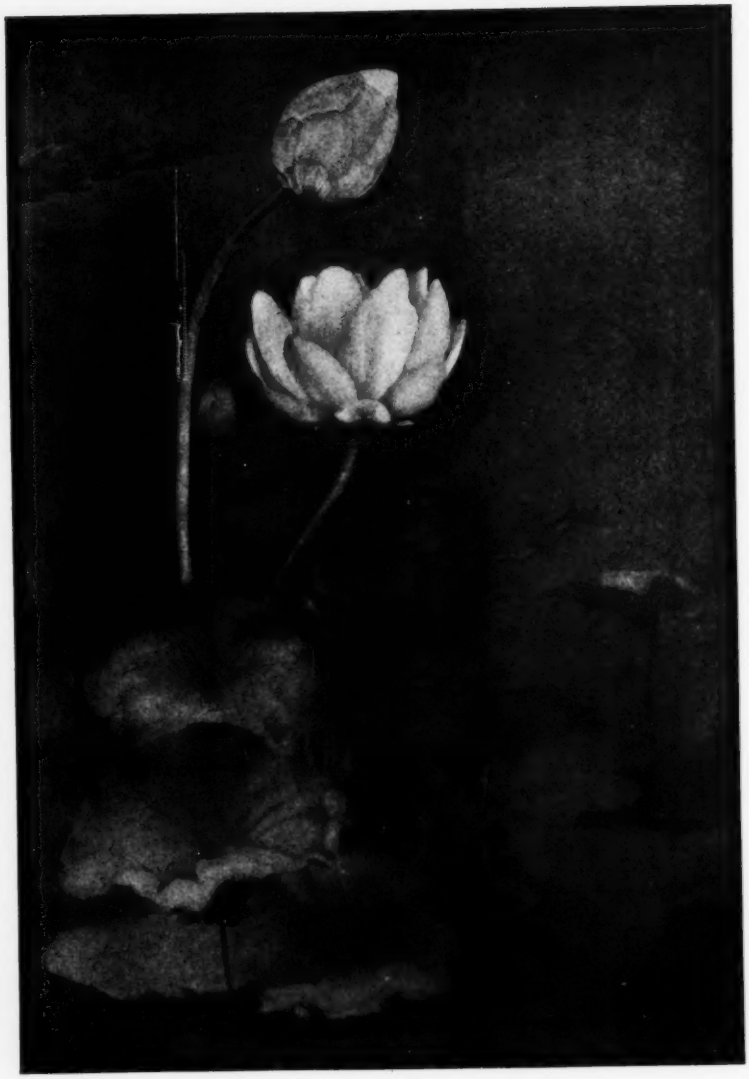
It is true that we have enlargers, but (I trust that my loyalty will not be impugned) they are expensive, clumsy and inadequate; or else they are babyish affairs meant for very limited work. Taking the catalog of British manufacturers issued before the War—and it is fair to assume that prices will gradually fall to that level after the War—I find that one could buy a first-class enlarger, 4 x 5 size, without objective, for about $30.00. The carrier is provided with rising, falling, rotating and tilting-arrangements. The light in the lamp-house is regulated from the outside; the house is well ventilated and light-tight; focusing is accurately done while close to the enlargement. Frankly, we have nothing that can touch that either in price or scientific construction.

And frankly, too, our manufacturers must produce the equal—and they can—or else they will lose their trade. We Americans have learned something about thrift as a result of the War, and that means that we are not going in for large cameras when small cameras will do the work just as well. And—this is my point—that means that we shall begin to call for good enlargers at a reasonable price. Anybody familiar with the spirit of the times, speaking photographically, can see the demand for enlargers as the result of the gradually growing demand for small cameras. The first manufacturer that puts a really good enlarger on the market at a fair price is bound to make money. Isn't it about time for some of the brethren in the back-row to wake up and give the people what they want?

E. L. C. MORSE.

A GOOD window-trim is often spoiled by a dirty pane.
The Spatula.

THE
JOHN CREAR
LIBRARY



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